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Town of Glenburn 1998 Comprehensive Plan

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TOWN OF GLENBURN 1998 COMPREHENSIVE PLAN

Prepared By:

Glenburn Comprehensive Plan Committee

With Assistance From:

**Penobscot Valley Council of Governments
PO Box 2579
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April 21, 2000

TOWN OF GLENBURN

1998 Comprehensive Plan

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A. INTRODUCTION

In response to 20 years of growth, changing landscape, sprawling development, and soaring taxes, the State of Maine Legislature enacted the "Comprehensive Planning and Land Use Regulation Act" (often referred to as the Growth Management Act) designed to provide municipalities with a means of preparing for future growth and development. The Growth Management Program, developed in consistency with the components of the above Act, is meant to provide direction and guidance to municipalities for future growth and development.

This Comprehensive Plan provides factual basis and policy framework for future planning, regulatory, and community development decision-making, in both the public and private sectors in the Town of Glenburn. The Plan is a valuable working instrument for the future growth and development of the community. The essential characteristic of the Plan makes it comprehensive, general, and long-range. Comprehensive, meaning that the Plan encompasses all aspects of the community. It is general in that the Plan summarizes policies and implementation strategies but does not include detailed regulations and exact locations, and long-range meaning that the Plan looks at the problems and possibilities in the future.

Glenburn's Comprehensive Plan was developed pursuant to the statutory requirements of the Comprehensive Planning and Land Use Regulation Act of 1988 (MRSA Title 30, § 4861). The adoption of the Plan can assist Glenburn in receiving preferential consideration when applying for federal or State funded grants that affect community development, as stated in MRSA Title 30-A, § 4349.

The main purpose of comprehensive planning is to discover how things connect. For example, how development within a watershed, even thousands of feet away, will impact on the quality of the lake and how poor soils lead to failing septic systems. The plan includes the following elements:

1. Survey of existing and potential resources;
2. Analysis of past, present, and future community trends; and
3. Development of policy proposals to abate, resolve or prevent local problems.

The Glenburn Comprehensive plan was developed by the people of Glenburn for the people of Glenburn. However, it follows an established format set forth by the State. The Plan meets the following State goals, as outlined below which are explicitly to the Town of Glenburn:

1. To encourage orderly growth and development in appropriate areas of each Glenburn, while protecting the Town's rural character, making efficient use of public services and preventing development sprawl;
2. To plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development;

3. To promote an economic climate which increases job opportunities and overall economic well-being;
4. To encourage and promote affordable, decent housing opportunities for all Glenburn residents.
5. To protect the quality and manage the quantity of the Glenburn's natural resources, including lakes, aquifers, great ponds, rivers, and other natural resources including, without limitation, wetlands, wildlife and fisheries habitats, shorelands, scenic vistas and unique natural areas;
6. To safeguard the Glenburn's agricultural and forest resources from development which threatens those resources;
7. To protect Glenburn's historical and archeological resources; and
8. To promote and protect the availability of outdoor recreation opportunities for all Glenburn residents, including access to surface waters.

The Comprehensive Plan looks at local, as well as regional, issues that concern or affect the Town of Glenburn. The Plan will guide the Town of Glenburn over the next 10 years and provide a reasonable approach to land use regulation in preparing the Town for future development.

Comprised within the Plan are the inventory and analysis of the Community Character and History, Population, Employment and Economy, Housing, Natural Resources, Recreation, Transportation, Public Facilities and Services, Fiscal Capacity, and Land Use sections; Local Policy Plan, Regional Policy Plan, Capital Investment Plan, and the Land Use Plan. Tables, charts, and graphs, as well as maps, are used throughout the Plan as a visual medium for information.

The Comprehensive Plan has been assembled and compiled with the genuine intention that all of the data and information contained herein is reasonably accurate and correct. The information contained in this Plan was gathered from the sources cited. Some of the sources were found to be more detailed and more recent than others. Where appropriate, future application of the information contained in this Plan should be preceded by a check of the sources to see if additional or revised information is available. Most of the information contained in the Plan is considered current enough and of sufficient detail to support the conclusions and recommendations offered. Note that while this information is suitable for general planning, it may not be appropriate for site specific decisions.

B. GENERAL SUMMARY

The Town of Glenburn is located in southern Penobscot County. Glenburn is bordered by Bangor, Orono, Old Town, Hudson, Kenduskeag, Levant, Hermon, and Pushaw Lake.

Glenburn is essentially a residential community with many small businesses scattered all over Town. Seasonal homes are converting to year-round housing. Rural nature, current low taxes, good education opportunities, and proximity to Bangor, Old Town, and Orono make it an attractive place to live.

The 1996 population was estimated to be about 4,017 people. By 2005, the population is projected to be 5,425. Between 1960 and 1990, Glenburn experienced a population increase of 231 percent. The highest population gain in the Bangor MSA. During the last intercensal period there were more people moving in than out of Glenburn.

Glenburn is tied into the regional economy of the Bangor area. Because of its reliance on employment in Bangor and the majority of goods and services, fluctuations in the area economy directly effect the economy of Glenburn.

In general, Glenburn's income level is similar to or greater than the County's and the State's. Glenburn's employment sector fluctuations are similar in trend when compared with those for the County and the State. Unemployment was close to non-existent in 1995, with a one percent rate. Residents are mainly employed in the wholesale and retail trade and professional and related services.

As changes have occurred in retail sales, personal income and employment, so have changes occurred in property tax. The increase of shorefront property development has increased the total valuation of the Town. The Town's tax base is primarily from residential property as there are no commercial or industrial businesses of significant size to impact the tax structure.

The Town experienced 33 percent growth of total housing units during the 1980s and 167 percent growth in mobile homes. Glenburn's housing has become more affordable and owner occupancy has increased. Glenburn has a relatively young housing stock and rapid housing growth. The desire by residents to maintain the rural attractiveness of Glenburn is challenged by new housing development. Glenburn has witnessed a larger share of housing starts than the region. This stems from the attractiveness of the Town due to its adjacency to employment in Bangor, Old Town and Orono, yet its rural setting. The result is the influx of young families, increase in mobile homes, and rise of subdivision activity.

Historical resources within the community represent an important tie to the past and are a legacy. Although the Town does not have sites or buildings listed on the National Register of Historic Places, it has many potential historic sites and buildings including the Original School House, the Abbot House (Old Cemetery), the Brick House, the Emery

House, the Horse Trail, the Charcoal Kiln, the Old Cemetery, the Old School House, and the West Glenburn Old School House.

Within the Town of Glenburn are several scenic areas. The descent on Lucky Landing and Lakeside Landing offers a beautiful scenic view on Pushaw Lake. Looking west from the Hudson Road, between Broadway and Lancaster Road, is a panoramic view of a farm vista set against the rolling hills. Ohio Street, near the Terrill property provides a sweeping view of the mountains toward Dixmont. Finally, Marston Meadow is a unique and beautiful scenic area.

Glenburn residents have access to a wide variety of recreational opportunities. Most of the recreational opportunities within Glenburn rely on the rural nature of the municipality. About 80 percent of the Town's land is forested, slopes are mostly gentle, and soils are quite wet in the most northern upper left quadrant. There are 25 non-forested wetlands, 9 significant sand and gravel aquifers, 7 rare or endangered Botanical Features, three potential deer wintering areas, as well as 14 waterfowl and wading bird habitats.

Glenburn's Pushaw Lake watershed includes the following communities: Bangor, Bradford, Charleston, Corinth, Glenburn, Hudson, Old Town and Orono. The lake shoreline located within the political boundary of Glenburn is mostly developed, with the exception of a few marshy areas. The water quality status of the lake is moderate stable, indicating average water quality but high potential for phosphorus recycling from lake-bottom sediments. Pushaw Lake supports a growing population of Loons, Eagles, Ospreys, Great Blue Heron, and other waterfowl in its wetlands. In addition, the Lake is home to two rare mussel types. Pushaw Lake is a significant natural and recreation resources for Glenburn and the region, therefore it is in the best interest of Glenburn to protect the water quality for future generations.

The natural resources of Glenburn are a very important element in planning for the Town's future. Considerable discussion has taken place on protecting natural resources and limiting the impact of development from degrading the quality of the natural resources.

Transportation linkages in Glenburn consist primarily of Routes 15, 221, and 222. Route 15 runs in a south-southeast/north-northwest direction connecting Bangor to Kenduskeag and constitutes the most travelled thoroughfare through Glenburn. Overall, Glenburn's roadways are in good condition. The Town has done a remarkable job of maintaining its roads. Several areas within the Town of Glenburn are qualified by the residents as potentially dangerous. There are some safety issues regarding school children crossing the Hudson Road. The Town feels that the 15 miles per hour speeding sign that has been posted to slow traffic down on the Hudson Road, when school children are present, is insufficient. To improve Glenburn's children safety, the need for sidewalks along Hudson Road, in the vicinity of the school, will be studied further.

The Town of Glenburn offers quality programs and facilities available to its residents which contributes to its desirability as a place to live. Respondents to the public opinion survey continue to give a high rating to most facilities and services. This correlates with the high value placed by survey respondents on the "quality of life" in Glenburn.

Overall the Town of Glenburn is in good financial condition. Similar or tougher economic times are anticipated in the next five years if present economic trends persist.

An active economy with the Bangor area provides employment and income for Glenburn residents and thus support the quality of life and well being of the area. Healthy commercial and industrial businesses within the Town will serve to maintain and increase the tax base, allowing the municipality to provide more services at less cost to individual taxpayers. Glenburn can help shape its economic growth by encouraging development in suitable areas with manageable impact on community character, natural resources, and infrastructure through proper zoning and permitting procedures.

Attracting light industry and commercial growth is an acceptable strategy for most of the residents. However, it is clear residents do not want to mix residential and commercial land uses. Any commercial growth should be in specific areas and not Town-wide.

Glenburn's existing land use patterns were grouped into five major areas: West Glenburn, Broadway Economic Corridor, Glenburn Center, Pushaw Lake, and Rural. Glenburn's separation of growth and rural areas, and the purpose of the districts it encompasses is meant to accommodate the Town's future growth and protect natural resources while responsibly managing the fiscal resources.

In developing Glenburn's proposed Land Use Plan, the Comprehensive Plan Committee's goal was first to ensure it would meet the people's needs and, secondly, try to meet the Comprehensive Planning and Land Use Regulation Act's requirements. Three districts were identified: the Growth, Business, and Rural Districts.

C. COMMUNITY CHARACTER AND HISTORY

INTRODUCTION

The State of Maine is full of archaeological sites, probably containing the best preserved archaeological record in New England. Many historic and archaeological resources lie within the Town of Glenburn. The goal of this section is to preserve these resources.

PURPOSE

The purpose of this section is to:

1. Outline Glenburn's history;
2. Identify and profile Glenburn's significant historic and archaeological resources in terms of their type and significance;
2. Predict whether the existence or physical integrity of those historic and archaeological resources will be threatened by the impacts of future growth and development; and
4. Assess the effectiveness of existing measures to protect and preserve significant historic and archaeological resources.

LOCATION

Glenburn is located six miles from the Interstate-95 (I-95) Broadway exit in Bangor and ten miles from US Route 1A. Glenburn is less than 50 miles from the coast and Acadia National Park. It is about 60 miles from Greenville and the Moosehead Lake region, and just over 100 miles from Baxter State Park.

ADJACENT TOWNS

The Town of Hudson is on the northern border of Glenburn and the Towns of Levant and Kenduskeag are on the western border. South of Glenburn are Hermon and Bangor and to the east Orono and Pushaw Lake. A tract of land, which is part of the town, lies across Pushaw Lake. The land abuts the City of Old Town. The Kenduskeag Stream runs through Glenburn.

HISTORICAL CONTEXT

Incorporation

In the early 1800s, Glenburn was known as Township One, Range Three, and as the Jackson Plantation. In 1822, Township One, Range Three was incorporated as Dutton. The name Dutton was changed to Glenburn, meaning a stream in a wooded valley, in 1837. The State Legislature divided the Towns of Levant and Glenburn and created the new Town of Kenduskeag in 1852.

Population

In the early 19th Century, Glenburn was a farming community with many small businesses. From 1810 to 1850, Glenburn's population exploded, experiencing a 917 percent increase, from 89 to 905 people. However, the population dropped to 357 people by 1930. This loss of population is attributed to many factors including the 1852 secession of Kenduskeag, the Civil War, the Great Depression, and the land boom in the West.

Subsequent to the drastic population loss, farming decline and the industrial boom began. The quality of the transportation infrastructure increased and Glenburn turned into a bedroom community. Thus resulting in a large number of people commuting to Bangor for employment.

Education and Library

The Glenburn Elementary School serves grades kindergarten through eight. From 1971 to 1974, Glenburn school children attended the Higgins Classical Institute in Charleston for high school and post-secondary school education. Presently, the Town pays tuition for residents to the high school of the student's choice.

The Friends of the Glenburn Library was formed in 1976 to raise money for the Library. In 1986, the Friends moved the one-room schoolhouse, from the Glenburn Covenant Church, to the Glenburn Elementary School property. The one-room schoolhouse is no longer the library but is used as office space by the school. Since 1991, the library has been located in the Glenburn Elementary School. The Friends meet monthly and continue to raise money through book fairs.

Recreation

Fifty years ago, recreation revolved around local events and organizations. School events, Grange fairs and socials, and Town Hall dances were common community events. Currently, improved local roads and easy access to I-95 renders easy access to cultural activities in Bangor, the University of Maine at Orono, the Maine State Library, and the Maine State Museum.

Pushaw Lake is one of the Town's most important recreational resources. In early years, there were several summer hotels on the lake, as it was a popular place for summer rusticators from

Bangor and the surrounding area. Pushaw Lake shores have been hit by many conflagrations: the Pushaw Road Perch House burned in the early 1900s and the AA Landing Burgis House burned in 1932. In 1989, the Lakeside Hotel was purchased by the Town for recreational purposes and the building was demolished a year later. The area is now used as a public boat landing and swimming area.

In the 1930s and 40s, there was a roller rink and dance hall at Lucky's Landing, as well as a large swimming pool and refreshment stand as part of the enormous recreation area. The roller rink survived until the 1960's when it burned. Much of Glenburn's recreational and social life centered around Pushaw Lake.

Land Use

There has been considerable subdividing of land along the shores of Pushaw Lake, during the land boom of the late 1980s. Parcels were divided into lots as small as 35 by 100 feet., and non-locals built summer camps on many of those lots.

HISTORICAL RESOURCES

National Register of Historic Places

The National Register of Historic Places is the official list of the nation's cultural resources worthy of preservation that are significant in American history, architecture, archaeology, engineering, and culture. Authorized under the National Register Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archaeological resources. The Register is administered by the National Park Service under the Secretary of the Interior. Properties listed in the Register include districts, sites, buildings, structures and objects. These resources contribute to an understanding of the historical and cultural foundation of the nation. Listings in the National Register include the following results: 1) recognition that a property is of significance to the nation, the State, and the community; 2) consideration in the planning for federal or federally assisted projects; 3) eligibility for federal tax benefits; and 4) qualifications for federal assistance for historic preservation, when funds are available.

As of January 1997, no historic buildings, structures, or objects, within the Town of Glenburn, were registered in the National Register of Historic Places. The Maine Historic Preservation Commission (MHPC) has suggested that a comprehensive survey of Glenburn's above-ground historic resources be conducted in order to identify those properties that may be eligible for nomination to the National Register of Historic Places.

While Glenburn is fairly rich in history, there are not many sites or buildings remaining from this history. Potential Historical sites, as illustrated on Map 3, include:

Original School House - Built in 1936 and located adjacent to the school House.

Abbot House/Old cemetery - Also known as the Old Stone House, The Abbot house was built early in the 19th century on the Pushaw Road. Legend has it that the rocks used for construction were brought in from ships by a sea captain that used the rocks as ballast.

Brick House - Built in 1852 with homemade bricks of clay from Lancaster Brook.

Emery House - Built in the middle of the 19th Century.

Horse Trail - Slight trace of first horse trail along the Kenduskeag Stream, also possible Indian Trail.

Charcoal Kiln - Located off Lancaster Brook Road, built by Megquier family in 1935, there is only one still standing.

Old Cemetery - Approximate location of old cemetery, stones still existing.

Old School House - Glenburn center on Megquier's property dates back to the 1800s.

West Glenburn Old School House - Now serves as West Glenburn Community Center and sub-station for the Fire Department, over 100 years old.

HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Historic Archaeological Resources

Historic archaeological resources are those associated with the earliest European settlers. As of January 1997, the MHPC does not list any historic archaeological sites in Glenburn, but no professional survey for historic archaeological sites has been conducted to date. Future fieldwork could focus on sites relating to the earliest period of the Town's settlement by Anglo-American, beginning in the early 19th Century.

Prehistoric Archaeological Resources

Prehistoric archaeological resources are those associated with Native American archaeology and generally date prior to the 1600s. As of January 1997, the MHPC lists only one, although not significant, prehistoric archaeological site located on the shore of Pushaw Lake. The actual location of the site will not be released to the public because of the vulnerability to vandalism and looting. Also, within Glenburn lies potential prehistoric archaeological resources along the banks of the Kenduskeag Stream. These resources need professional surveying, according to MHPC. Map 3 illustrates Glenburn's prehistoric archaeological sites, as well as potential sites.

Glenburn's Shoreland Zoning Ordinance provides a mechanism for review of construction activity or other ground disturbing activity within the archaeological resource areas of the shoreland zone.

A potential archeological site has been identified by the Comprehensive Planning Committee along the Kenduskeag Stream, as illustrated on Map 3. There are three or four gravesites located along the stream. It is unknown if they are Native American graves or early European settlers' graves. Some have been relocated to the Town cemetery for their protection.

THREATS TO HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Historical and archaeological resources must first be identified before they can be protected from any potential threats. Protection of identified historic sites in Glenburn is the responsibility of the municipality or individual owners of the site(s). Archaeological resources are often threatened by development because their existence is not obvious. Public ownership of historic sites is an option only if the owners desire to sell their property.

RESOURCE PROTECTION MEASURES

Maine Historic Preservation Commission: The Maine Historic Preservation Commission (MHPC) is the central repository in the State of Maine for all archaeological and historic resources survey information. Archaeological resources include locations where there has been an early presence of human beings, and they include the structures, artifacts, terrain features, graphics and/or remains of plants or animals from earlier times. Archaeological resources refer to those resources found underground and include those which are historic and prehistoric. The MHPC contains an inventory of sites, yet has no jurisdiction over these sites, but the MHPC coordinates funding for inventory and restoration of historic sites. Towns with historic protection ordinances may also be eligible for monies through MHPC. Funding for inventory and restoration is (sometimes) available depending on legislative appropriation.

National Register of Historic Places: MHPC also coordinates with the National Register. Sites registered by the owner with the National Register are protected through federal legislation but only protected against any intervention or development by a federal agency. Eligible sites include those with only local significance or value.

Local Ordinances: Town ordinances, such as land use and subdivision ordinances, can protect historic area zones from harmful impact and regulate their development.

Shoreland Zoning Ordinance: Because archaeological sites are found along shores (99% of Maine's known prehistoric archaeological sites are located near water), shoreland zoning will often provide protection of such sites. To the extent that future archaeological sites may be identified on the banks of water bodies within the community, they may be partially protected from development by State mandated setbacks in shoreland zones.

The Site Location Law: The law requires consideration of impact on historic resources.

Easement and Initiatives: Individual landowners, historic societies, or nonprofit agencies may apply a number of development restrictions to their properties on a voluntary basis. Deed constraints or easements may strengthen these restrictions.

Public or Nonprofit Ownership: Public ownership of historic resources is another option for protection of historic buildings or sites.

PLANNING PERSPECTIVE

Historical resources within the community represent an important tie to the past and are a legacy. Protection and preservation of these resources is important to reduce their loss to future generations. Identification of the historic resources is an important step in developing methods of documenting and protecting historical resources.

Although the Town does not have sites or buildings listed on the National Register of Historic Places, it has many potential historic sites and buildings including the Original School House, the Abbot House (Old Cemetery), the Brick House, the Emery House, the Horse Trail, the Charcoal Kiln, the Old Cemetery, the Old School House, and the West Glenburn Old School House. The gravesite located along the Kenduskeag Stream has archaeological potential, according to the Comprehensive Plan Committee.

D. POPULATION

INTRODUCTION

Glenburn's past, present and future issues are directly influenced by population fluctuations and trends. Understanding population change is essential to understanding the direction Glenburn will take in the future.

The goal of this section is to present an analysis of significant population and household characteristics and to provide a basis for future growth management decisions. However, the ultimate goal is to provide for a proper relationship between future population and its environment. Accordingly, most phases of the Plan are either dependent upon, or strongly influenced by, the size and composition of the Town's future population.

PURPOSE

The purpose of this section is to:

1. Profile the Town's and region's population in terms of those population and household characteristics most significant in describing the municipality's character and in influencing future demands for housing, land and community facilities and services;
2. Identify and understand important changes in those characteristics of future population;
3. Identify and understand how Glenburn's population characteristics and changes in population relate to those for the region and for the State; and
4. Identify and understand the size and significant characteristics of the Town's population ten years into the future.

HISTORICAL POPULATION

Historical population change in Glenburn demonstrates how the Town has changed since the beginning of the 19th Century, as illustrated in Table 1. The high level of residents during the mid-1800s is representative of the booming economy of the time. The subsequent drop in population, until the growth of the 1940s, is representative of the regional decline of the lumber industry and other natural resource based industries. Glenburn's population has been rising since the 1940s.

During the 1980s, Glenburn's population increased significantly faster than Penobscot County and the State of Maine, with respective increases of 38, 7, and 9 percent.

Table 1

| HISTORICAL POPULATION CHANGE Town of Glenburn | | | | | |
|--|------|----------|------|------|----------|
| Year | Num. | % Change | Year | Num. | % Change |
| 1810 | 89 | --- | 1910 | 457 | -1% |
| 1820 | 207 | 132% | 1920 | 377 | -17% |
| 1830 | --- | --- | 1930 | 357 | -5% |
| 1840 | 664 | --- | 1940 | 500 | -40% |
| 1850 | 905 | 241% | 1950 | 694 | 38% |
| 1860 | 741 | -18% | 1960 | 965 | 39% |
| 1870 | 720 | -2% | 1970 | 1196 | 23% |
| 1880 | 655 | -9% | 1980 | 2319 | 93% |
| 1890 | 583 | -10% | 1990 | 3198 | 38% |
| 1900 | 461 | -20% | --- | --- | --- |

Source: U.S. Bureau of Census

METROPOLITAN STATISTICAL AREA

The Town of Glenburn is part of the Bangor Metropolitan Statistical Area (MSA) along with 13 other communities. The Bangor MSA is comprised of the municipalities of Bangor, Brewer, Eddington, Glenburn, Hampden, Hermon, Holden, Kenduskeag, Milford, Old Town, Orono, Orrington, Veazie, and Winterport. The City of Bangor serves as the center of employment and activity of the Bangor MSA.

Table 2 and Graph 1 show the population for each of the 14 municipalities for 1900, 1930, 1960, and 1990, as well as population change. From 1900 to 1990, Bangor remained the most populated community and Kenduskeag the least populated. During the first thirty years, Glenburn experienced the greatest decrease, approximately 44 percent. All of the MSA's municipalities experienced an increase in population from 1930 to 1960. During this period, the highest increase, 170 percent, was observed in Glenburn. Between 1960 and 1990, Glenburn again sustained the highest population gain, 231 percent, while Bangor's population fell by 15 percent.

Table 2

| | BANGOR STATISTICAL METROPOLITAN AREA | | | | | | |
|------------|--------------------------------------|-------|-------|-------|----------|---------|---------|
| | Population | | | | | | |
| | Numerical | | | | % Change | | |
| | 1900 | 1930 | 1960 | 1990 | 1900-30 | 1930-60 | 1960-90 |
| Bangor | 21850 | 28749 | 38912 | 33181 | 32% | 35% | -15% |
| Brewer | 4835 | 6329 | 9009 | 9021 | 31% | 42% | 0% |
| Eddington | 663 | 487 | 958 | 1947 | -27% | 97% | 103% |
| Glenburn | 461 | 357 | 965 | 3198 | -23% | 170% | 231% |
| Hampden | 2182 | 2417 | 4583 | 5974 | 11% | 90% | 30% |
| Hermon | 1183 | 1204 | 2087 | 3755 | 2% | 73% | 80% |
| Holden | 602 | 543 | 1375 | 2952 | -10% | 153% | 115% |
| Kenduskeag | 423 | 397 | 584 | 1234 | -6% | 47% | 111% |
| Milford | 838 | 1205 | 1572 | 2884 | 44% | 30% | 83% |
| Old Town | 5763 | 7226 | 8626 | 8317 | 25% | 19% | -4% |
| Orono | 3257 | 3343 | 8341 | 10573 | 3% | 150% | 27% |
| Orrington | 1266 | 1165 | 2539 | 3309 | -8% | 118% | 30% |
| Veazie | 555 | 568 | 1354 | 1610 | 2% | 138% | 19% |
| Winterport | 1623 | 1437 | 2088 | 2675 | -11% | 45% | 28% |

Sources: U.S. Bureau of Census for 1960 and 1990 figures.

1900 and 1930 figures drawn from the Maine Register State Year-Book and Legislature Manual, No.62, with the exception of Veazie and Winterport figures, which were drawn from the Municipal Statistic Book, 1982 IN Hampden Comprehensive Plan, 1986.

PROJECTION OF TOTAL POPULATION

As shown in Table 3, during the 1980s, the population of Glenburn grew significantly faster than Penobscot County and the State of Maine. It is likely that Glenburn will continue to grow and undoubtedly significantly faster than Penobscot County and the State of Maine.

Table 3

| | POPULATION | | |
|------------------|------------|-----------|----------|
| | Numerical | | % Change |
| | 1980 | 1990 | 80-90 |
| Town of Glenburn | 2,319 | 3,198 | 38% |
| Penobscot County | 137,015 | 146,601 | 7% |
| State of Maine | 1,125,043 | 1,227,928 | 9% |

Source: U.S. Bureau of Census

By 2005, it is projected that Glenburn's population will be 5,425, as shown in Table 4. This projection was calculated using a polynomial regression line, as shown in Chart 1.

Table 4

| POPULATION ESTIMATE AND PROJECTION Town of Glenburn | |
|--|------------|
| YEAR | POPULATION |
| 1990 ¹ | 3,198 |
| 1991 ² | 3,261 |
| 1992 ² | 3,318 |
| 1993 ³ | 3,475 |
| 1994 ³ | 3,611 |
| 1995 ³ | 3,765 |
| 1996 ³ | 4,017 |
| 1997 ³ | 4,165 |
| 2005 ⁴ | 5,425 |

¹ Census² Census estimate³ Estimate based on new housing units

POPULATION BY AGE GROUP

The important aspect of Table 5 is the review of population growth in Glenburn as it affects age groups, which in turn will affect the school system and other municipal services. During the 1980s, the 18-64 and 65 and over population segments experienced the greatest increase in population. This trend is anticipated to continue for the next ten years, as illustrated in Chart 2. Proportionately, the 18-64 cohort will continue to increase while the 65 and over will remain somewhat stable. Therefore, it is expected that there will be increased demand for elderly services in and/or around the Glenburn area.

Table 5

| POPULATION BY AGE GROUPS Town of Glenburn | | | | | |
|--|-------|------|-------|------|-----------------------|
| | 1980 | % | 1990 | % | 1980-1990 % Change |
| Under 5 | 196 | 8% | 216 | 7% | 10% |
| 5 - 17 | 604 | 26% | 710 | 22% | 18% |
| 18 - 64 | 1,358 | 59% | 1,998 | 62% | 47% |
| 65 - Over | 161 | 7% | 274 | 9% | 70% |
| Total | 2,319 | 100% | 3,198 | 100% | 38% |

Source: U.S. Bureau of Census

HOUSEHOLDS

Tables 6 and 7 show the number of households and household size for the Town of Glenburn, Penobscot County, and the State of Maine. During the 1980s and 1990s, household size has been declining while the number of households has been rising for Glenburn, the County, and the State. The demographic changes are commanding smaller and smaller households, indicating that fewer people are living in more housing units. This is the result of young adults leaving home and setting up one and two person households, a high rate of divorce that splits households into two, and more elderly people living longer and on their own. These trends are likely to continue during the next ten years.

Table 6

| | HOUSEHOLDS | | |
|------------------|------------|---------|-----------------------|
| | 1980 | 1990 | 1980-1990 % Change |
| Town of Glenburn | 734 | 1,101 | 50% |
| Penobscot County | 45,974 | 54,063 | 17.6% |
| State of Maine | 39,5184 | 45,6312 | 15.5% |

Source: U.S. Bureau of Census

Table 7

| | HOUSEHOLD SIZE | |
|------------------|----------------|------|
| | 1980 | 1990 |
| Town of Glenburn | 3.11 | 2.90 |
| Penobscot County | 2.71 | 2.57 |
| State of Maine | 2.75 | 2.56 |

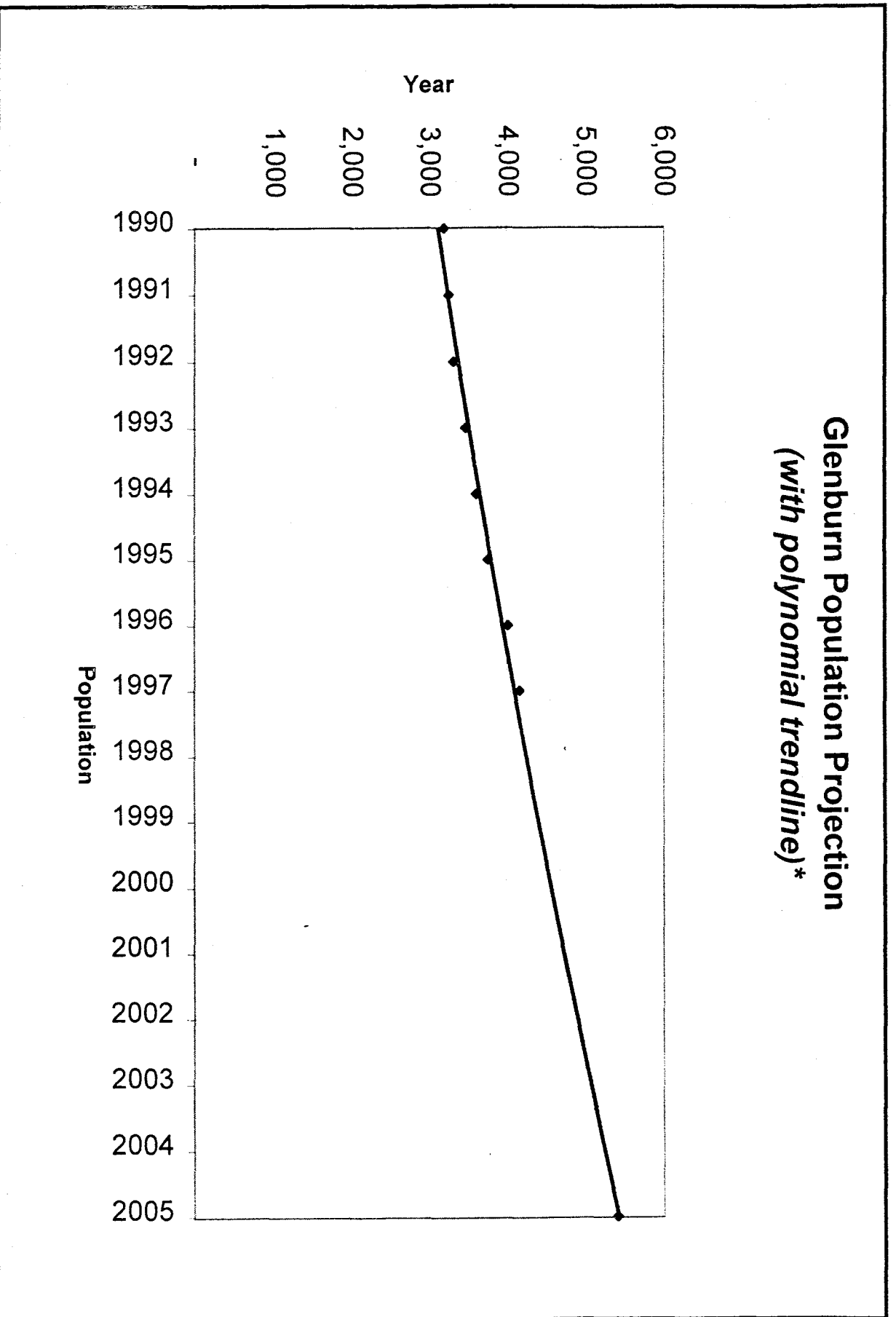
Source: U.S. Bureau of Census

MIGRATION PATTERNS

Maine's population is mobile. The Maine State Planning Office (SPO) reports that, on average, 40 percent of the State's residents move at least once during a five-year period. Such population shifts affect small communities like Glenburn.

Net-migration is defined as the number of people that Glenburn gains or loses compared to what would naturally have been gained or lost based on the actual number of births and deaths. From 1980 to 1990, Glenburn gained 702 residents, referred as in-migration, as illustrated in Table 8. Similarly, Penobscot County and the State of Maine had a net in-migration of population over the same period. Table 9 describes the formula used to calculate migration patterns.

Chart 1



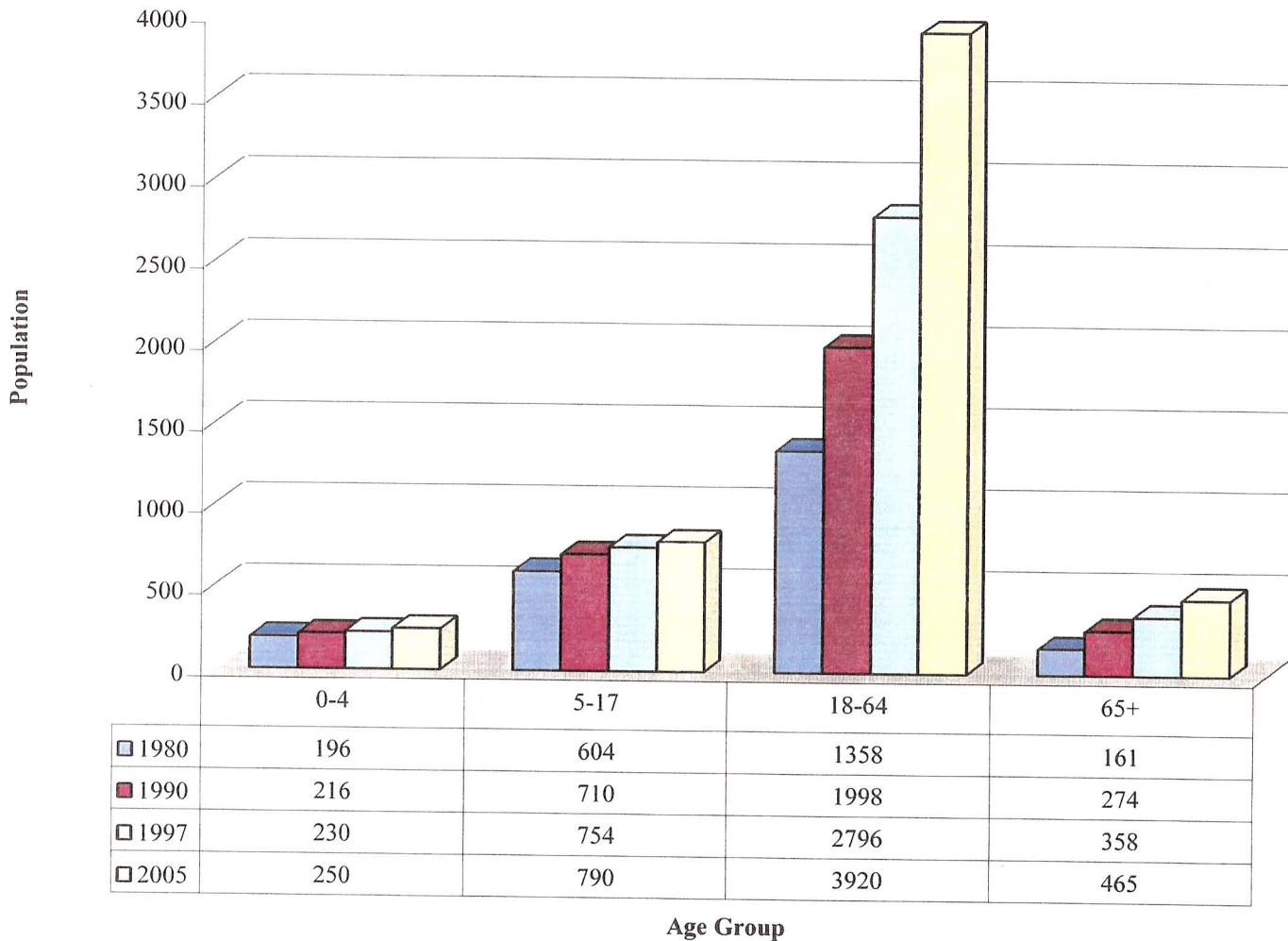
*A regression line that accounts for all points within the data set.

1990-1992=census information

1993-1997=estimates calculated (new houses/yr * avg. #/ household)+previous year pop.

2005=projection

**Glenburn Population by Age Group
2005 Projection**



*1997 5-17 age group corresponds to school count for children age 5-18 years.
Population projection based on age cohort trends and projected total population.*

Table 7

| MIGRATION PATTERNS 1980 - 1990 | | | | | |
|--------------------------------|--------------------|--------------------|-----------------------|-----------------------|---------------|
| | Population 1980 | Population 1990 | Intercensal Births | Intercensal Deaths | Net-migration |
| Town of Glenburn | 2,319 | 3,198 | 311 | 134 | 702 |
| Penobscot County | 137,015 | 146,601 | 19,106 | 11,652 | 2,132 |
| State of Maine | 1,125,043 | 1,227,928 | 167,922 | 109,672 | 44,635 |

Source: U.S. Bureau of Census.

Table 8

| | |
|---|---|
| Net migration = $90P - (80P + (B-D))$ | |
| B = Intercensal Births | ✓ If net-migration = (+), it indicates an in-migration pattern |
| D = Intercensal Deaths | |
| 80P = 1980 Population | ✓ If net-migration = (-), it indicates an out-migration pattern |
| 90P = 1990 Population | |

EDUCATION¹

Education attainment as an issue is based on the idea that meeting the academic requirements of specific programs better prepares a person to function as a productive member of the society. As the economic environment has grown more complex over the years, there has been a corresponding increase of educational expectations and aspirations. At one time, an eighth-grade education was considered sufficient. Today a high school degree is considered a minimum level of achievement. However, the door to a more successful life has, for a very long time, been reserved for those with a college education. No other social indicators suggest quality of life and overall well-being more than educational attainment. It is the single most important factor in predicting how well we prosper over the years.

Since people generally attend college as a way of ensuring greater economic opportunity, the tendency is to migrate to places where the opportunities are the greatest. Rural counties and communities tend to have lower levels of educational attainment because economic opportunity is usually found elsewhere. The suburbs tend to have higher levels because economic success allows the flexibility of residential choice.

Since individuals age 25 and over are, more or less, free to migrate wherever they choose, educational attainment levels are not a direct reflection of educational attitudes of the geographic area. The distribution and comparisons shown in Table 10 are more a reflection of perceptions about economic opportunity or quality of life rather than about the school system.

In 1990, the proportion of Glenburn's high school and college graduates, over 25 years of age, was greater than in 1980. A similar pattern was experienced by both the County and the State. In 1990, 79 percent of Glenburn, Penobscot County, and State of Maine residents held a high school diploma. During the same period, Glenburn had a lesser percentage of college graduates than the County and the State, with 11, 18, and 19, percent respectively. The State of Maine is still quite a way from the 2005 benchmark set for the State as a whole, as described in the Second Report of the Maine Economic Growth Council - Progress '96, *Measures of Growth*. The benchmark is set for 90 percent of Maine's 25 years and over population to graduate high school.

Maine's capacity for growth and prosperity is strongly linked to technology resources. For Glenburn's children to be prepared to effectively participate and compete in a 21st Century economy, they will need to have access to information and be able to utilize information technology systems.

Table 10

| | EDUCATIONAL ATTAINMENT | | | | | |
|------------------|------------------------|---------|-------------------------------|------|---------------------------|------|
| | Population age 25+ | | Percent Graduated High School | | Percent Graduated College | |
| | 1980 | 1990 | 1980 | 1990 | 1980 | 1990 |
| Town of Glenburn | 1,280 | 2,013 | 72 | 79 | 10 | 11 |
| Penobscot County | 75,831 | 91,410 | 72 | 79 | 14 | 18 |
| State of Maine | 661,715 | 795,613 | 69 | 79 | 14 | 19 |

Source: U.S. Bureau of Census

PLANNING PERSPECTIVE

Presently, Glenburn is essentially a residential community with many small businesses scattered all over town. Seasonal homes are converting to year-round housing. Rural nature, current low taxes, good education opportunities, and proximity to Bangor, Old Town, and Orono make it an attractive place to live.

Glenburn's population grew rapidly with the booming times of the mid-1800s and decreased significantly as the same economic factors driving the boom faded away and eventually disappeared. As the Town moved through the early 1900s, there was a gradual increase in population, which is reflective of the change from a rural/farming community to a rural/residential community. In the second part of the 1900s, Glenburn experienced significant growth attracting new and relatively young residents who were drawn to the community in part by its rural character and affordable land/housing, yet its close proximity to Bangor. With the influx of young families, schools experienced a corresponding increase in students.

Unless there are dramatic changes in the economy, it is anticipated that the Town of Glenburn will continue to grow at a faster rate than most of the communities within the Bangor MSA, Penobscot County and the State of Maine. By 2005, Glenburn's population is projected to be 5,425.

Glenburn's anticipated trends would help the Town plan for and adapt to coming changes. Balancing the increase in population against responses to the citizen survey, which indicated a desire to control growth, regulate certain types of growth to specific areas, and preserve a rural character, represents a distinct challenge to the community.

REFERENCES

1. Information in this section was in part drawn from Maine Department of Labor, *Diversity and Community*, 1994. Pg. 127-129.
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E. EMPLOYMENT AND ECONOMY

INTRODUCTION

The economy plays an important role for Glenburn. The economic well being of the residents of Glenburn directly effects how the Town functions and its own financial health. The Bangor area provides an employment base for Glenburn, as well as a retail sales base.

This section of the Comprehensive Plan will look at several economic indicators, such as income, which is one of the best measures of economic well-being and vies with educational attainment and occupation as a measure of socio-economic status. The goal of the Employment and Economy section is to promote an economic climate in Glenburn that increases the Town's tax base, increases job opportunities for local residents needing employment, and encourages overall economic well-being.

PURPOSE

The purpose of this section is to:

1. Profile the economy of Glenburn and the region in terms of employment characteristics, as well as commercial and industrial activity;
2. Identify and understand important changes in those characteristics and how they might reflect future economic conditions;
3. Identify and understand Glenburn's relationship with the regional economy in terms of employment and economic vitality; and
4. Identify those businesses and sectors of the economy of Glenburn and the region most important to the employment and the economic vitality of the Town.

INCOME

Median household income and the percent change are shown in Tables 1 and 2. Glenburn's median household income has been increasing since 1980 and is projected to continue until 2001. Although Glenburn's median household income was less in 1980, it surpassed the County and the State in 1990. In 1990, median household income for Glenburn was \$32,277, compared to \$26,631 for Penobscot County and \$27,896 for the State of Maine. During the last intercensal period, the Town of Glenburn experienced the most improved median household income increase of all communities within the Bangor MSA. In 1990, Glenburn had the highest median household income of all the MSA communities after Orrington and Hampden.

Income per capita and percent changes are presented in Tables 3 and 4. In 1980 (\$4,916) and 1990 (\$11,852), Glenburn's income per capita was less than Penobscot County and the State of Maine. A trend reversal has been forecasted; the 1996 estimates and 2001 projection show a similar income per capita at all three levels. In 1990, Glenburn had the fourth lowest income per capita of all MSA communities.

The figures in Table 5 show 1990 household income types. In 1990, 961 Glenburn households had wage and salary income. Glenburn's mean wage and salary income was \$31,833. Mean wage and salary income includes total money earnings received for work performed. It includes wages, salary, commissions, tips, piece-rate payments, and cash bonuses earned before deductions were made. In 1990, 197 households received non-farm self-employment income and 8 households received farm self-employment income, the respective means were of \$9,546 and \$10,000. Glenburn had 207 households getting Social Security income. Glenburn's mean Social Security income was \$7,894. Social Security income includes Social Security pensions and survivors benefits and permanent disability insurance payments made by the Social Security Administration prior to deductions for medical insurance and railroad retirement insurance checks from the U.S. Government. Public assistance was received by 78 households within the Town of Glenburn; the mean public assistance income was \$3,758. Public assistance income includes payments made by Federal or State welfare agencies to low income persons who are 65 years or older, blind, or disabled; aid to families with dependent children; and general assistance. Finally, 112 households lived with a mean retirement income of \$9,828.

Glenburn's proportion of households with wage and salary income, 88 percent, is greater than Penobscot County and the State of Maine, with 77 and 76 percent respectively. Wage and salary employment is a broad measure of economic well-being but does not indicate whether the jobs are of good quality. The Town of Glenburn has a slightly higher percentage of households with non-farm self employment than the County and the State, with respectively 18, 13 and 15 percent. Less than one percent of Glenburn's households had farm self-employment income compared to a whole one percent for the County and four percent for the State of Maine. The proportion of households with Social Security income within Glenburn was 19 percent, which is less than at the County and the State level, with 27 and 28 percent respectively. There was a somewhat similar proportion of households receiving public assistance income at all three levels, approximately eight percent. A lower proportion of Glenburn's households, 10 percent, received retirement income, compared to approximately 15 percent at the County and State level.

The income cutoffs used by the U.S. Bureau of Census to determine poverty status consists of a set of several thresholds including family size and number of family members under 18 years of age. In 1990, the average poverty threshold for a family of four persons was \$12,674. Poverty levels are illustrated in Table 6. The figures show that 217 persons lived below poverty. Twenty (20) children under 5 years of age lived below poverty level, 25 elderly lived below poverty, and 54 families. The figures show that Glenburn's proportion of people, children under 5 years of age, elderly, and families who live below poverty level are lower than for Penobscot County and the State of Maine.

Table 1

| | MEDIAN HOUSEHOLD INCOME | | | |
|------------------|-------------------------|---------------|------------------------|--------------------------|
| | 1980 in \$ | 1990 in \$ | 1996 Estimate in \$ | 2001 Projection in \$ |
| Town of Glenburn | 13,808 | 32,277 | 32,849 | 36,250 |
| Penobscot County | 14,181 | 26,631 | 30,733 | 34,021 |
| State of Maine | 13,826 | 27,896 | 31,348 | 34,257 |

Source: U.S. Bureau of Census

Table 2

| | MEDIAN HOUSEHOLD INCOME CHANGE | | |
|------------------|--------------------------------|----------------|----------------|
| | 1980-1990 % | 1990-1996 % | 1996-2001 % |
| Town of Glenburn | 134% | 2% | 10% |
| Penobscot County | 88% | 15% | 11% |
| State of Maine | 102% | 12% | 9% |

Source: U.S. Bureau of Census

Table 3

| | INCOME PER CAPITA | | | |
|------------------|-------------------|--------|------------------|--------------------|
| | 1980 | 1990 | 1996 Estimate | 2001 Projection |
| Town of Glenburn | 4,916 | 11,852 | 15,324 | 17,595 |
| Penobscot County | 5,593 | 12,231 | 14,930 | 17,458 |
| State of Maine | 5,769 | 12,954 | 15,388 | 17,605 |

Source: U.S. Bureau of Census

Table 4

| | INCOME PER CAPITA Percentage Change | | |
|------------------|--|---------------------|---------------------|
| | 1980-1990 % Chg. | 1990-1996 % Chg. | 1996-2001 % Chg. |
| Town of Glenburn | 141% | 30% | 15% |
| Penobscot County | 119% | 22% | 17% |
| State of Maine | 125% | 19% | 14% |

Source: U.S. Bureau of Census

Table 5

| | HOUSEHOLD INCOME TYPE 1989 | | | |
|--|-------------------------------|-------|------------------|----------------|
| | Town of Glenburn | | Penobscot County | State of Maine |
| | Num. | % | % | % |
| With wage and salary income (Mean wage and salary income) | 961 (\$31,833) | 88% | 77% | 76% |
| With non-farm self-employment income (Mean non-farm self-employment income) | 197 (\$9,546) | 18% | 13% | 15% |
| With farm self-employment income (Mean farm self-employment income) | 8 (\$10,000) | 0.7% | 1% | 4% |
| With social security income (Mean social security income) | 207 (\$7,894) | 19% | 27% | 28% |
| With public assistance income (Mean public assistance income) | 78 (\$3,758) | 7% | 9% | 8% |
| With retirement income (Mean retirement income) | 112 (\$9,828) | 10% | 15% | 16% |
| Households | 1,095 | 1,095 | 54,173 | 465,729 |

Source: U.S. Bureau of Census

Table 6

| | POVERTY STATUS 1990 | | | |
|--|------------------------|---------------------------------|---------------------------------|---------------------------------|
| | Town of Glenburn | | Penobscot County | State of Maine |
| | Num. | % living below poverty level | % living below poverty level | % living below poverty level |
| All persons for whom poverty status is determined / below poverty level | 3,198 / 217 | 7% | 13% | 11% |
| Related children under 5 years / below poverty level | 216 / 20 | 9% | 18% | 16% |
| All Persons 65 years and over / below poverty level | 274 / 25 | 9% | 14% | 14% |
| All families / below poverty level | 927 / 54 | 6% | 10% | 8% |

Source: U.S. Bureau of Census

LABOR FORCE AND EMPLOYMENT

Influencing a community's labor force is the immigration and/or emigration of workers or people looking for work in the area. In addition, labor force size will change because of an increasing tendency for a group of residents, such as spouses, young adults, the elderly, or students, to either work or look for work.

The labor force is defined as all persons who are either employed or are receiving unemployment compensation, as illustrated in Table 7. Although the 1995 labor force estimate of 1,879 is greater than the 1980 and 1990 figures, the number of unemployed people is

significantly less. Therefore, the unemployment rate, as shown in Table 8 has been decreasing from 4.7 percent in 1990 to 1.0 percent in 1995. According to the 1995 unemployment rate estimate, Glenburn has a significantly lower unemployment rate than the County and the State, 1.0, 6.1, and 5.7 percent respectively. The 1995 Bangor MSA unemployment rate was 4.7 percent. The unemployment rate is mainly influenced by growth in the number of jobs and/or a decline in the number of persons actively seeking employment.

Table 9 shows the employed population by industry for the Town of Glenburn and Penobscot County. The figures indicate that the Town of Glenburn and Penobscot County have been experiencing similar trends. There has been a significant decrease in manufacturing employment compared to an increase in service and retail employment.

The size of the labor force, its distribution by industry, and how it is employed are important components to consider when planning for future economic development. The plans for a new business or the expansion of an already existing one must be based on the assessment of available labor. It is important for the Town of Glenburn to ensure that its labor force be appropriately trained to meet the job market needs, thus keeping abreast with the ever changing technology and emerging industries.

Table 7

| CIVILIAN LABOR FORCE Town of Glenburn | | | |
|--|-------|-------|------------------|
| | 1980 | 1990 | 1995 Estimate |
| Civilian Labor Force | 1,013 | 1,739 | 1,879 |
| Employment | 957 | 1,657 | 1,860 |
| Unemployment | 164 | 82 | 19 |

Source: U.S. Bureau of the Census

Table 8

| UNEMPLOYMENT RATE | | |
|-------------------|------|---------------|
| | 1990 | 1995 Estimate |
| Town of Glenburn | 4.7 | 1.0 |
| Penobscot County | 6.7 | 6.1 |
| State of Maine | 6.6 | 5.7 |

Source: U.S. Bureau of the Census

Table 9

| EMPLOYED POPULATION BY INDUSTRY | | | | | | |
|---|--------------------------|------|--------------------------|------|-----------------------------|-----------------------------|
| Occupation | Town of Glenburn 1980 | | Town of Glenburn 1990 | | Penobscot County 1980 | Penobscot County 1990 |
| | Numerical | % | Numerical | % | % | % |
| Agriculture, forestry fisheries, and mining | 20 | 2% | 41 | 3% | 2% | 2% |
| Construction | 61 | 6% | 117 | 7% | 5% | 6% |
| Manufacturing | 203 | 20% | 190 | 11% | 25% | 17% |
| Transportation | 75 | 7% | 51 | 3% | 4% | 4% |
| Communication and other public utilities | 25 | 2% | 58 | 4% | 2% | 2% |
| Wholesale trade and Retail trade | 256 | 25% | 432 | 26% | 21% | 24% |
| Finance, Insurance, and Real Estate | 31 | 3% | 70 | 4% | 4% | 4% |
| Business, Repair, Entertainment, and Recreation Services | 58 | 6% | 143 | 9% | 7% | 8% |
| Professional and Related Services | 215 | 21% | 415 | 25% | 25% | 29% |
| Public administration | 69 | 7% | 140 | 8% | 5% | 4% |
| Total | 1,013 | 100% | 1,657 | 100% | 100% | 100% |

Source: U.S. Bureau of Census

SALES

Taxable sales are one of the few available indicators of the actual size, growth, and character of an economic region. The figures in Table 10 present information on taxable sales of consumer goods for Bangor Suburban Area, Penobscot Economic Summary District, and the State of Maine. There are 26 communities included within the Bangor Suburban Area: Alton, Argyle Township, Bradley, Carmel, Clifton, Corinna, Corinth, Dixmont, Eddington, Etna, Exeter, Glenburn, Greenbush, Greenfield, Hampden, Hermon, Holden, Hudson, Kenduskeag, Levant, Milford, Newburgh, Newport, Orrington, Plymouth, and Stetson. The Penobscot Economic Summary District includes 90 communities located within the Winterport Area, Bangor Area, Bangor Suburban Area, Dover-Foxcroft Area, Lincoln Area, and the Millinocket Area. All figures are in real dollars, not adjusted for inflation, and represent only taxable sales.

The Following are the definitions of each retail sector:

| | |
|------------------------|---|
| Consumer Retail Sales: | Total taxable retail sales to consumers. |
| Total Retail Sales: | Includes Consumer Retail Sales plus special types of sales and rentals to businesses where the tax is paid directly by the buyer (such as commercial or industrial oil purchase). |
| Building Supply: | Durable equipment sales, contractors' sales, hardware stores and lumber yards. |
| Food Stores: | All food stores from large supermarkets to small corner food stores. The values here are snacks and non-food items only, since food intended for home consumption is not taxed. |
| General Merchandise: | In this sales group are stores carrying lines generally carried in large department stores. These include clothing, furniture, shoes, radio-TV, household durable goods, home furnishing, etc. |
| Other Retail: | This group includes a wide selection of taxable sales not covered elsewhere. Examples are dry good stores, drug stores, jewelry stores, sporting good stores, antique dealers, morticians, book stores, photo supply stores, gift shops, etc. |
| Auto Transportation: | This sales group includes all transportation related retail outlets. Included are auto dealers, auto parts, aircraft dealers, motorboat dealers, automobile rental, etc. |
| Restaurant/Lodging: | All stores selling prepared food for immediate consumption. The Lodging group includes only rental tax. |

Between 1991 and 1995, the Bangor Suburban Area's General Merchandise and Other Retail sectors have experienced a drop of 4 percent in taxable sales, while a gain was experienced for the Penobscot Economic Summary District and the State of Maine. During the same period, Auto Transportation posted a significant increase for the Bangor Suburban Area, 16 percent, compared to a smaller increase for both the Penobscot Economic Summary District and the State of Maine, 9 percent.

Table 10

| TAXABLE SALES Consumer Goods by Retail Sector | | | | | |
|--|----------------------------------|----------------------------|--------------------|--|--------------------|
| | Bangor Suburban Area | | | Penobscot Economic Summary District | State of Maine |
| Retail Sectors | Annual Total Sales 1991 | Annual Total Sales 1995 | 1991-1995 % Chg | 1991-1995 % Chg | 1991-1995 % Chg |
| Consumer Retail Sales | \$113,278 | \$143,471 | 6% | 4% | 5% |
| Total Retail Sales | \$128,831 | \$164,427 | 6% | 3% | 4% |
| Building Supplies | \$27,364 | \$31,878 | 4% | 2% | 4% |
| Food Stores | \$24,544 | \$27,950 | 3% | 3% | 3% |
| General Merchandise | \$15,660 | \$13,170 | -4% | 1% | 5% |
| Other Retail | \$7,451 | \$6,421 | -4% | 1% | 3% |
| Auto Transportation | \$28,710 | \$51,382 | 16% | 9% | 9% |
| Restaurant/Lodging | \$9,549 | \$12,669 | 7% | 3% | 4% |

Source: U.S. Bureau of Census

COMMUTER PATTERNS

According to the Maine Department of Transportation (DOT), 95 percent of Glenburn's labor force work in other communities and 5 percent work in town. Seventy-two percent (72%) of Glenburn's labor force work in Bangor, 5 percent in Brewer and a similar proportion in Orono and Old Town.

EMPLOYERS

Glenburn's employers are shown in Table 10.

Major employers located within the Bangor Area include:

Over 2,000 employees:

- ✓ Eastern Maine Medical Center
- ✓ University of Maine (Orono) & University of Maine System headquarters

Between 1,000 and 1,999 employees:

- ✓ United States Postal Service
- ✓ The Bangor Mall

Between 500 and 1,000 employees:

- √ James River Corporation
- √ St. Joseph Hospital
- √ Community Health and Counseling Services
- √ Shop 'N Save Supermarkets
- √ The City of Bangor
- √ Bangor Mental Health Institute

Between 350 and 499 employees:

- √ General Electric
- √ Eastern Fine Paper
- √ Bangor Hydro-Electric
- √ NYNEX
- √ Ames Corporation Department Stores
- √ RH Foster Fuels
- √ Irving Oil Corporation

Table 11

| EMPLOYERS | LOCATION | PRODUCTS/SERVICES | NUMBER OF EMPLOYEES | HOME OCCUPATIONS |
|------------------------|--------------------|--------------------------------|---------------------|------------------|
| A J Murphy | Hudson Rd | Heavy Truck Repair | ≤20 | N |
| AA Randal | Broadway | Garage Doors | ≤20 | N |
| Ace Electrical | Broadway | Electrician | ≤20 | N |
| Al Belanger & Son | Hudson Rd | Contractor | ≤20 | N |
| Archer Forest Products | Ohio St | Forest Products | ≤20 | N |
| Archer Leather | Ohio St | Sewing Services | ≤20 | Y |
| Austin Powder Co. | Pushaw Rd | Explosives | ≤20 | N |
| Autocraft | Broadway | Automotive Repair | ≤20 | N |
| B & F Water Transport | Lancaster Brook Rd | Water Transport | ≤20 | N |
| Bangor Glass | Broadway | Glass Work | ≤20 | N |
| Bare Woodshop | Hudson Rd | Wood Working | ≤20 | N |
| Bean's Detail Painting | Pushaw Rd | Airbrushing | ≤20 | N |
| Berryville Motors | Hudson Hill Rd | Automotive Service | ≤20 | N |
| Bill's Handyman | Lakeview Rd | Handy Man Service | ≤20 | N |
| BJ's Market | Hudson Rd | Convenience Store & Restaurant | ≤20 | N |
| Black Bear Medical | Lancaster Rd | Non-Traditional Therapies | ≤20 | Y |

Section E**Inventory and Analysis:
Employment and Economy**

| EMPLOYERS | LOCATION | PRODUCTS/SERVICES | NUMBER OF EMPLOYEES | HOME OCCUPATIONS |
|--------------------------------|--------------------|---------------------------------|---------------------|------------------|
| Bob Campbell's Catering | Phillips Rd | Catering Service | ≤20 | Y |
| Brain Damage Racing Corp | Sandy Beech Rd | Boat Service | ≤20 | Y |
| Brothers Car Care | Broadway | Automotive Cleaning | ≤20 | N |
| Bruce's Garage | Phillips Rd | Automotive Repair | ≤20 | N |
| C A Pelkey Fuels | Hudson Rd | Fuel Oil & Burner Service | ≤20 | N |
| Car Doctor | Hudson Rd | Car sales/repair | ≤20 | N |
| Carlow Construction | Beech Grove Ave | Contractor | ≤20 | N |
| Check Out | Pushaw Rd | Convenience Store & Gas Station | ≤20 | N |
| Cinderella & Co | Ceder Breeze Ctr | Wholesale clothes & crafts | ≤20 | Y |
| Cormier Plumbing | Vista Way | Plumbing & Heating | ≤20 | N |
| Corson's Garage & Sales | Phillips Rd | Automotive Repair | ≤20 | N |
| Cote Construction | Broadway | Contractor | ≤20 | N |
| Country Unlimited | Hudson Rd | Painting classes & supplies | ≤20 | Y |
| Country Crafter | Hudson Rd | Crafts | ≤20 | N |
| Countryside Nursery | Hudson Rd | Nursery | ≤20 | Y |
| Crafty Hands | Broadway | Gift Shop | ≤20 | Y |
| Day Care/Foster Home | Leavitt Lane | Day Care/Boarding Home | ≤20 | Y |
| Dick Treadwell & Sons | Phillips Rd | Water wells and Pumps | ≤20 | N |
| Dube Construction | Bangor | Contractor | ≤20 | N |
| Edie's Hair Flashes | Pushaw Rd | Hair Salon | ≤20 | Y |
| Electoral College Sportswear | Leavitt Lane | Clothes Retail/Catalogue | ≤20 | Y |
| Elsie Beauty Shop | Pushaw Rd | Hair Dresser | ≤20 | Y |
| Ernie Phillips | Ohio St | Contractor | ≤20 | N |
| Fifield's Office Machines | Pushaw Rd | Office Machine | ≤20 | Y |
| Frank Andrew's Electric | AA Landing Rd | Electrician | ≤20 | N |
| Gary's Small Engines | Pushaw Rd | Small Engine Repair | ≤20 | N |
| Gerald A Simpson & Son | Pushaw Rd | Small Engine Repair | ≤20 | N |
| Glenburn Congregational Church | Hudson Rd | Church | ≤20 | N |
| Glenburn Auto | French's Point | Automotive Repair | ≤20 | N |
| Glenn's Glass Co | Marston Rd | Glass Work | ≤20 | N |
| H E Bridges | Lancaster Brook Rd | Contractor | ≤20 | N |

Section E**Inventory and Analysis:
Employment and Economy**

| EMPLOYERS | LOCATION | PRODUCTS/SERVICES | NUMBER OF EMPLOYEES | HOME OCCUPATIONS |
|-----------------------------------|--------------------|----------------------------|---------------------|------------------|
| Hair Style Your Way | McCarthy Rd | Hair Dresser | ≤20 | Y |
| Harvey Storage | Broadway | Storage | ≤20 | N |
| Heaten Oil Co. | Hudson Rd | Fuel Oil | ≤20 | N |
| Hometown Antiques | Hudson Rd | Antiques | ≤20 | Y |
| Jerry Robichaud | Broadway | Carpentry | ≤20 | Y |
| Kenduskeag Stream Stables | Lancaster Brook Rd | Horses | ≤20 | N |
| KT Aviation | Luckeys Landing Rd | Seaplane Base/Marina | ≤20 | N |
| Lane Fabrication Inc. | McCarthy Rd | Welding, Auto Sales/Repair | ≤20 | N |
| Leonard Rice Auto Body | Broadway | Automotive Repair | ≤20 | N |
| Lecture's Paving | Union St | Paving | ≤20 | N |
| Lewis Used Cars | Hudson Rd | Car Sales | ≤20 | N |
| Louie Hebert | Lakeview Rd | Surveyor | ≤20 | N |
| Melson Enterprises | Hudson Rd | Contractor | ≤20 | N |
| Mitchell Landscaping | Pine Hill Dr | Landscaping/plowing | ≤20 | Y |
| Municipal Building | Lakeview Rd | Town Office | ≥20 | N |
| Munson's Small Engine Repair | Hudson Rd | Small Engine Repair | ≤20 | N |
| Nadeau Carpentry | Pine Grove Dr | Contractor | ≤20 | Y |
| Nasons Garage & Snow Plowing | Phillips Rd | Automotive Repair | ≤20 | N |
| New & Used Shop | Hudson Rd | Antique Dealer | ≤20 | N |
| Pace Appliance | Phillips Rd | Appliance Repair | ≤20 | N |
| Peter Martin | Lakeview Rd | Contractor | ≤20 | Y |
| Pete's Garage | McCarthy Rd | Car sales/repair | ≤20 | N |
| Philbrick Boarding Home | Hudson Rd | Boarding Home | ≤20 | N |
| Pine Hill Nursery School | Pine Hill Dr | Preschool | ≤20 | Y |
| Pinkham's Auto | Broadway | Car Sales | ≤20 | N |
| Pushaw Road Daycare | Pushaw Rd | Daycare | ≤20 | Y |
| Rally Motors | Broadway | Car Sales | ≤20 | N |
| Residential & Commercial Painting | Cressey Ave | Painting Service | ≤20 | Y |
| Richard Fye, Building Contractor | Lakeview | Contractor | ≤20 | N |
| Skip Taxidermy | Pushaw Rd | Taxidermist | ≤20 | Y |
| Someone Special Day Care | Roundstone Dr | Day Care | ≤20 | Y |

| EMPLOYERS | LOCATION | PRODUCTS/SERVICES | NUMBER OF EMPLOYEES | HOME OCCUPATIONS |
|-----------------------------|--------------------|--|---------------------|------------------|
| Spring Valley Construction | Sunset Ave | Contractor | ≤20 | N |
| Steve's Cleaning | Lakeview Rd | Cleaning Service | ≤20 | Y |
| Strout Cedar Homes | Ohio St | Contractor | ≤20 | N |
| Superior Exterior Home | Ohio St | Contractor | ≤20 | Y |
| Tammy's LC Day Care | Norway Rd | Day Care | ≤20 | Y |
| Tam's Upholstery Touch | Union St | Upholster | ≤20 | N |
| Thayer Auto | Broadway | Automotive Repair | ≤20 | N |
| Theresa's Daycare | Phillips Rd | Daycare | ≤20 | Y |
| Tim's Professional Cleaning | Luckeys Landing Rd | Commercial Cleaning Service | ≤20 | Y |
| Tot & Toddler's Shop | Hudson Rd | Clothes Retail | ≤20 | N |
| Treasured Tot Daycare | Hudson Rd | Daycare | ≤20 | Y |
| Truck Body Fabrication | Broadway | Mfg truck body | ≤20 | N |
| Tuffy Bear Sit and Sleep | Pushaw Rd | Furniture | ≤20 | N |
| Village Variety | Broadway | Convenience Store, Restaurant & Gas Station | ≤20 | N |
| W W Garage | Hudson Rd | Automotive Repair | ≤20 | N |
| W R Newberry Builder | Roundstone Dr | Contractor | ≤20 | N |
| Wayne Honeycutt | Roundstone Dr | Site Evaluator | ≤20 | Y |
| WBGR TV | Ohio St | Broadcasting | ≤20 | N |
| Wheelden's Sports | Pine Grove Ave | Guns/sporting goods | ≤20 | Y |
| Williams Plumbing & Heating | Pushaw Rd | Plumbing | ≤20 | N |
| Windy Hill Stables | Pushaw Rd | Horses | ≤20 | N |
| Zee's Feeds | Hudson Rd | Feed Store | ≤20 | N |

Source: Maine Business Directory, 1994-1995, 1996-1997 Tower Publishing, and the Glenburn Comprehensive Planning Committee

SUMMARY OF MAINE'S FINANCIAL INCENTIVES (as of November 1996)

Below are incentives to financially assist the Town of Glenburn and its businesses.

Business property Tax Reimbursement Program (BETR)

This program returns all local property taxes paid on eligible new business property placed in service or constituting construction in progress after April 1, 1995. Taxes on this property may be reimbursed by the State for a maximum of 12 years. The definition of

qualified business property for this program is broad and specified by law. Eligible property includes certain property affixed or attached to a building or other real estate if it is used to further a particular trade or business on that site, and so may include property which would be classified as real property for other purposes.

Tax Increment Financing (TIF)

A Tax Increment Financing (TIF) District is an area within a municipality that is designated as a development district to allow the municipality to financially support a business development program using the revenue stream of new property taxes that will result from improvements made to the property.

When forming a TIF district, a community may either fund a portion of the necessary improvements or return a percentage of the incremental tax revenue to the company to help offset project costs. The maximum term for a TIF district is 30 years, except in instances where the municipality issues bonds to finance a project, in which case the maximum term is 20 years.

Employment Tax Increment Financing (ETIF)

This program provides firms that add fifteen or more qualified employees within a two-year period with a reimbursement of between 30 and 50 percent of those employee's Maine income tax withholdings, for a period of up to ten years. To qualify, employees must be paid a wage equal to or above the average per capita wage in their labor market area and be provided group health insurance and access to an ERISA qualified retirement program. The company must also demonstrate that ETIF funding is an essential component of the expansion project's financing. Payments are made directly to the employer by the State. Businesses are prohibited from receiving ETIF and the Maine Jobs and Investment Tax Credit (JITC) concurrently. An ETIF-approved firm may elect to take the JITC, but must then receive the total amount of the available credit prior to receiving ETIF benefits.

Economic Development Rate Programs through Electric Utility Companies

Central Maine Power Company (CMP), Bangor Hydro Electric Company, and Maine Public Service Company all have economic development rate programs. While each of these programs are slightly different, all of them offer incentives to new and existing businesses.

Maine Quality Centers

Sponsored through the Maine Technical College system, Maine will respond to expansion or relocation labor force training needs through a single point of contact and rapid response for training and education. The program includes recruitment, assessment, workplace literacy, computer literacy, competencies training, and technical skills training. Maine also offers apprenticeship, continuing education, and customized school-to-work initiatives.

Governor's Training Initiative (GTI)

This grant program is available to eligible businesses in Maine for training and retraining employees. 'Training' services potentially funded under this program include: recruitment, screening and assessment, workplace literacy, workplace safety, technical training, on-the-job training, higher education, essential work competencies, job task analysis, specialized training, technical assistance on work force capacity issues, worker training plans, small business training, and technical assistance. Employers must provide a statement of commitment to long-term operation in Maine, provide training for new hires in occupations where there is not already a sufficient supply of trained workers, pay wages which are least equal to 85% of the average wage for that occupation in that labor market, and provide at least 50% of the premium cost of employee health insurance (except for businesses with fewer than 25 employees and in operation less than three years). Applications are made to the Maine Department of Labor.

Community Development Block Grant Business Assistance and Economic Development Infrastructure Programs (CDBG)

Through the Business Assistance Program, funds are available to local units of government (except Bangor, Portland, Lewiston, and Auburn) which in turn loan or grant these funds to businesses which create or retain jobs for low and moderate income persons and have a significant impact on a local or regional economy. The maximum amount which can be awarded to a community is \$300,000. Community applications are accepted on an ongoing basis by the State Department of Community and Economic Development.

The Economic Development Infrastructure Program provides Maine communities (same exceptions as above) with funds to develop or rehabilitate public infrastructure so that existing and new non-retail businesses can create or retain jobs for low and moderate income individuals. The maximum community grant amount is \$400,000. (For information on application deadlines please call Eastern Maine Development Corporation).

Maine Investment Tax Credit

This is an income tax credit for machinery and equipment used directly in production and is worth 1% of the cost of such machinery and equipment per year over five years (a total credit of 5%). Note that, beginning in income tax years ending on or after July 1, 1997, this credit is not available to taxpayers receiving 100% reimbursement of property taxes under the Business Equipment Property Tax Reimbursement Program (BETR). A taxpayer receiving any less than 100% reimbursement, however, is still entitled to this credit. This program is an alternative to the BETR program if it proves advantageous to the company.

Jobs and Investment Tax Credit

This program provides a Maine income tax credit for investments in most types of personal property that generate at least 100 new jobs within two years of the date the investment

is placed in service. The credit is tied to Federal investment tax credit (section 38) and is limited to \$500,000 per year, with carry-forwards available for up to seven years, including the year the credit is first taken. Thus the amount of the credit will not exceed \$4,500,000 unless there are multiple qualifying investments in successive years. Businesses are prohibited from receiving the Maine Jobs and Investment Tax Credit and Employment Tax Increment Financing concurrently.

Machinery and Equipment Sales Tax Exemption

This is an exemption from Maine State sales tax (6%) for machinery and equipment which is used directly in production. Included in this exemption are many essential fixtures. Items consumed or destroyed directly and primarily in production, repair, and replacement parts for qualified production equipment will be considered exempt from sales tax. Additionally, 95% of the fuel and electricity used in a manufacturing facility is exempt from State sales tax.

Research and Development Tax Credit

This program provides a two-tiered State income tax credit for new research and development activities in Maine. This program allows a credit of 5% of qualified research expenses over a three year average base amount and a credit of 7.5% of basic research payments as defined under section 41 of the IRS code.

Supplier Network

The Maine Supplier Access System matches Maine manufacturers with suppliers of materials and services within the State. In many instances, this results in lower costs to the manufacturer, more accurate inventory and quality control, and better access to suppliers.

Site Selection and Environmental Permitting

Working confidentially with regional and local economic development agencies, the State will identify sites and/or facilities that meet the client's specifications and locations that will allow the company to maximize its return on investment. Site location tours for selected locations can be coordinated with community leaders, suppliers, and others of interest to the client.

The Maine Department of Environmental Protection (DEP) is prepared to assist companies in quickly identifying and addressing any site, air, or water permit issues that may be required. DEP is committed to facilitating business expansion projects by working proactively with companies from the earliest stages of the project's development.

Financing Options

Maine offers a number of financing options to companies interested in expanding or locating in the State. The Finance Authority of Maine (FAME) administers several programs for the State, including loans, bonds, and guarantees. The Eastern Maine Development Corporation also administers loan programs for business development in the Eastern Maine region.

PLANNING PERSPECTIVE

Glenburn is tied into the regional economy of the Bangor area. Because of its reliance on employment in Bangor and the majority of goods and services, fluctuations in the area economy directly effect the economy of Glenburn.

In general, Glenburn's income level is similar to or greater than the County's and the State's. Glenburn's employment sector fluctuations are similar in trend when compared with those for the County and the State. Glenburn's 1990 median household income was \$32,277, higher than the County and the State. Over 200 people or 54 families lived below poverty level. Unemployment was close to non-existent in 1995, with a one percent rate. Residents are mainly employed in the wholesale and retail trade and professional and related services. The Town has a significantly large number of businesses (including home occupations).

As changes have occurred in retail sales, personal income and employment, so have changes occurred in property tax. The increase of shorefront property development has increased the total valuation of the Town. The Town's tax base is primarily from residential property as there are no commercial or industrial businesses of significant size to impact the tax structure.

Attraction of industries and businesses to Glenburn, in an attempt to provide more local employment and broaden the tax base, has to be viewed from a variety of perspectives. The results of the public opinion survey indicate a desire by survey respondents to attract small shops/stores and, to a lesser degree, light industry. Contrasted with that response, over 67 percent felt commercial growth should be separated from residential growth. Those areas in which respondents favored commercial growth include the Hudson Road, Broadway, Union Street and possibly Glenburn Center. It is interesting to note 33 percent of the respondents indicated that the reason they chose to live in Glenburn is its proximity to Bangor.

An active economy with the Bangor area provides employment and income for Glenburn residents and thus support the quality of life and well being of the area. Healthy commercial and industrial businesses within the Town will serve to maintain and increase the tax base, allowing the municipality to provide more services at less cost to individual taxpayers. Glenburn can help shape its economic growth by encouraging development in suitable areas with manageable impact on community character, natural resources, and infrastructure through proper zoning and permitting procedures.

Attracting light industry and commercial growth is an acceptable strategy for most of the residents. However, it is clear residents do not want to mix residential and commercial land uses. Any commercial growth should be in specific areas and not Town-wide.

F. HOUSING

INTRODUCTION

A sufficient supply of affordable and livable housing is important for Glenburn to meet present and future demands. Glenburn is a residential community where housing stock is the basis of Glenburn's tax base. Housing, and especially its affordability, is very important for the well-being of Glenburn residents. The goal of this section is to encourage and promote affordable, decent housing opportunities for all Glenburn residents.

PURPOSE

The purpose of this section is to:

1. Profile the housing stocks of Glenburn and Penobscot County in terms of size and composition;
2. Describe the affordability of the housing stock of Glenburn for very low income, low income, and moderate income households;
3. Identify and understand important changes in housing stock characteristics and how they might reflect the size and characteristics of future housing demands; and
4. Identify and understand how Glenburn's housing stock changes relate to the region's housing stock and housing demand.

BACKGROUND INFORMATION

Glenburn has been and remains a bedroom community. Housing stock is the cornerstone of both private and public investment. Housing represents the major investment of most individuals in Town and is the mainstay of the local tax base. The late 1980 public opinion survey indicated that residents support the continuation of single family residences, as well as additional senior citizen housing. Respondents were favorable to give developers the option, based on soil suitability, of either standard minimum lot sizes or clustering the lots to preserve open space.

HOUSING UNITS

Number of Units

The number of year-round housing units is important to consider when planning. Table 1 shows total housing units data for the Town of Glenburn, Penobscot County, and the State of Maine. In 1990, there were a total of 1,298 housing units in Glenburn. During the 1980s, the

Town of Glenburn recorded a 33 percent rise in their housing stock, compared to 17 percent for the County and 37 percent for the State of Maine. Based on population projection, it is anticipated that there will be 1,871 housing units in 2005.

During the 1980s, Glenburn experienced a decline in household size combined with a rise in the number of households. In addition, the total number of households has been increasing at a significantly higher rate (50%) than the population (38%), thus creating a 33 percent increase in housing units during this period. It is important for a community such as Glenburn to maintain sufficient housing units so prices do not become over-inflated. In addition, a supply large enough should exist so new businesses can find reasonable housing for immigrants to the area.

Table 1

| | NUMBER OF TOTAL HOUSING UNITS | | |
|------------------|-------------------------------|---------|-----------------|
| | 1980 | 1990 | 80-90 % Chg. |
| Town of Glenburn | 974 | 1,298 | 33 |
| Penobscot County | 52,415 | 61,359 | 17 |
| State of Maine | 428,245 | 587,045 | 37 |

Source: U.S. Bureau of Census

Structure Type

The type of housing units is an important indicator of affordability, density, and the character of the community. Within a community should be a diverse distribution of types of homes to provide variation according to affordability and style.

Housing units in structures are presented in Table 2. In 1990, one-unit structures represented 60 percent of Glenburn's housing units while mobile homes accounted for 37 percent. During the 1980s, the increase of one unit structures in Glenburn was 2 percent compared to 18 percent for Penobscot County and 10 percent for the State as a whole. Glenburn's multi-family units experienced a 17 percent increase compared to a 15 percent gain for both the County and the State. Mobile homes increased 167 percent in Glenburn compared to 80 for the County, and 83 percent for the State of Maine.

Glenburn has a high share of mobile homes relative to its entire housing stock. This is a result of several factors such as relatively cheap land plus the lower costs of mobile homes as compared to stick built homes. The mobile homes are predominantly located on individual lots, not in mobile home parks. Glenburn's five mobile home parks are not oversized nor overcrowded thus not detrimental to the character of the community. Although not disproportionate, many of these homes are inhabited by elderly people. Overall, Glenburn's mobile homes are in good condition and the pre-1976 mobile homes locating in Town must meet the requirements of the Building Code and the State Electric Code.

In 1990, the Glenburn Comprehensive Plan Committee estimated the number of seasonal dwellings at approximately 113. Seasonal dwellings are continually converted into year-round houses for both year-round people and for future retirement purposes. Many of these homes are not located on municipal roads or private roads, constructed to Town standards, often making access and provision of municipal services difficult.

Table 2

| | UNITS IN STRUCTURE | | | | | | |
|-------------|--------------------|------|-------|------|------------------|------------------|------------------|
| | Town of Glenburn | | | | Penobscot County | State of Maine | |
| | 1980 | | 1990 | | 1980-90 % Chg | 1980-90 % Chg | 1980-90 % Chg |
| | Num. | % | Num. | % | | | |
| One-unit | 764 | 78% | 783 | 60% | 2% | 18% | 10% |
| Multi-unit | 30 | 3% | 35 | 3% | 17% | 15% | 15% |
| Mobile Home | 180 | 18% | 480 | 37% | 167% | 80% | 83% |
| Total units | 974 | 100% | 1,298 | 100% | 33% | 17% | 17% |

Source: U.S. Bureau of Census

Building Permits

Based on building records, between 1993 and 1997, Glenburn issued 294 residential building permits, as shown in Table 3. The majority (58%) were issued for mobile homes.

Table 3

| | RESIDENTIAL BUILDING PERMITS | | |
|-------|------------------------------|--------------|-------|
| | Houses | Mobile Homes | Total |
| 1993 | 21 | 33 | 54 |
| 1994 | 27 | 20 | 47 |
| 1995 | 19 | 34 | 53 |
| 1996 | 31 | 56 | 87 |
| 1997 | 25 | 28 | 53 |
| Total | 123 | 171 | 294 |

Source: Glenburn building permits

Table 3A indicates the total number of permits from 1993 to 2000 for new dwelling units and their respective location on the town's tax map. The large number of permits for Tax Maps 27 and 28 are due to the location of mobile home parks. Please see Map 16 in the map section of this plan for permit locations.

Table 3A

| Tax Map | Building Permit History | | | | | | | | Total |
|---------|-------------------------|------|------|------|------|------|------|------|-------|
| | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | |
| 1 | - | - | - | - | - | 1 | 1 | - | 2 |
| 2 | - | 3 | 1 | - | 1 | 2 | 1 | 1 | 9 |
| 3 | - | - | - | - | - | 1 | - | - | 1 |
| 4 | - | 1 | - | 1 | - | - | - | - | 2 |
| 5 | - | - | - | - | - | - | - | - | 0 |
| 6 | - | - | - | - | - | - | - | - | 0 |
| 7 | 4 | 6 | 4 | 2 | 2 | 1 | 2 | 2 | 23 |
| 8 | - | 2 | 2 | 2 | 3 | 2 | - | 1 | 12 |
| 9 | 1 | 2 | 1 | 4 | 4 | 1 | - | 4 | 17 |
| 10 | - | - | 1 | 3 | 1 | 4 | 2 | 9 | 20 |
| 11 | - | - | - | - | - | 1 | - | - | 1 |
| 12 | - | - | - | - | - | - | - | - | 0 |
| 13 | - | - | 5 | 2 | 1 | 3 | 1 | 1 | 13 |
| 14 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 13 |
| 15 | 1 | 2 | - | 3 | - | - | 4 | - | 10 |
| 16 | 2 | 2 | 4 | 3 | 1 | 2 | 1 | 1 | 16 |
| 17 | 1 | 2 | 1 | - | - | 2 | - | 2 | 8 |
| 18 | - | 1 | - | 1 | 1 | 1 | 2 | - | 6 |
| 19 | - | - | 1 | - | - | - | - | - | 1 |
| 20 | - | - | 1 | 2 | 1 | - | 1 | 2 | 7 |
| 21 | 5 | 1 | 1 | 4 | 1 | 2 | 2 | - | 16 |
| 22 | 1 | 1 | - | 1 | - | 1 | - | - | 4 |
| 23 | 3 | - | - | 1 | 1 | - | 1 | 1 | 7 |
| 24 | 2 | 4 | 4 | 2 | 2 | 4 | - | 1 | 19 |
| 25 | 2 | 4 | 1 | 2 | 1 | 2 | 1 | 2 | 15 |
| 26 | - | - | - | - | - | - | - | - | 0 |
| 27 | 1 | 4 | 16 | 16 | 4 | 5 | 4 | 2 | 52 |
| 28 | 3 | 5 | 7 | 7 | 4 | 1 | 3 | 2 | 32 |
| 29 | 1 | - | - | 2 | - | 1 | 2 | 1 | 7 |
| 30 | - | - | - | 1 | - | - | - | - | 1 |
| 31 | - | - | 2 | 3 | 1 | 2 | 2 | 1 | 11 |
| 32 | 4 | 3 | 2 | 3 | 2 | 5 | 2 | 1 | 22 |
| 33 | - | - | - | 1 | - | - | - | - | 1 |
| 34 | - | - | - | - | - | - | - | - | 0 |
| 35 | 1 | - | - | - | - | - | - | - | 1 |
| 36 | 1 | 2 | 1 | 5 | 2 | - | - | - | 11 |
| 37 | - | 2 | - | - | - | 2 | 1 | 1 | 6 |
| 38 | - | - | - | - | - | - | 1 | - | 1 |
| 39 | - | - | - | - | - | - | - | - | 0 |
| 40 | - | - | - | - | - | - | - | - | 0 |
| 41 | 2 | 5 | 2 | 5 | 2 | 1 | 2 | 4 | 23 |
| 42 | 1 | 1 | 1 | 1 | - | 1 | 1 | - | 6 |
| 43 | - | - | 1 | - | - | 2 | 1 | - | 4 |
| 44 | - | - | - | - | - | - | - | - | 0 |
| 45 | - | 1 | - | 1 | - | - | - | - | 2 |

Source: Building permit records and town tax maps.

Housing Stock

Maine's housing stock reflects the State's history and the uniqueness of its culture and the independent character of its people. The State's housing stock is the oldest in the nation. Nationwide Maine ranks first in the proportion (35%) of the housing stock that was built prior

to 1940, as illustrated in Table 4. Thirty-two percent (32%) of Penobscot County's stock dates prior to 1940, compared to 8 percent, or 99 units, for Glenburn. Several of these units are in substandard condition and in need of repair. It is important for Glenburn's residents to be aware of existing rehabilitation funds (and renters aware of their rights to demand a certain level of maintenance by their landlords). Twenty-three percent (23%) of Glenburn's housing stock was built between 1940 and 1969, compared to 27 percent for the County and 24 percent for the State. A larger proportion of the Town's housing stock was built in the 1970s and 1980s, than for the county and the State. Overall, Glenburn's housing stock is significantly younger than the County's and the State's.

Table 4

| | YEAR OF STRUCTURE BUILT | | | |
|---------------------|-------------------------|------|------------------|----------------|
| | Town of Glenburn | | Penobscot County | State of Maine |
| | Num. | % | % | % |
| 1980 to March 1990 | 542 | 41% | 20% | 21% |
| 1970 to 1979 | 361 | 28% | 21% | 20% |
| 1940 to 1969 | 296 | 23% | 27% | 24% |
| 1939 or earlier | 99 | 8% | 32% | 35% |
| Total housing stock | 1,298 | 100% | 100% | 100% |

Source: U.S. Bureau of Census

HOME OCCUPANCY

Tenure

Home ownership is a good indicator and is used to assess the overall standard of living in an area. One way to trace home ownership change over time is to compare owners and renters as a proportion of total occupied housing, as illustrated in Table 5. A high rate of owner-occupied housing is typical of a bedroom community such as Glenburn. In 1980 and 1990, the proportions of owner and renter-occupied housing units at the local, regional, and State levels remained fairly stable.

The high level of home ownership presents a unique situation for lower income residents. Rights exist for renters to assure a safe and sanitary housing environment. Also, subsidized rental housing development and renter assistance programs help to make housing more affordable for renters. With the exception of the programs offered through the Penquis Community Action Program and Rural Development (formerly FmHA), little is available to assist low income home owners to attain or maintain safe and affordable housing.

Using constant 1990 dollars to show change during the 1980s and avoid the distortion of the true housing picture in terms of "well being," the median value of owner-occupied housing units increased by 27 percent for Glenburn, 17 percent for the County, and 44 percent statewide,

as illustrated by the figures in Table 6. During the 1980s, the median value of Glenburn's renter-occupied units rose by 13 percent, compared to 18 percent for the County and 29 percent for the State, as shown in Table 7.

Table 5

| | HOUSING OCCUPANCY 1990 | | | | | | | |
|-----------------|------------------------|-----|-------|-----|------------------|------|----------------|------|
| | Town of Glenburn | | | | Penobscot County | | State of Maine | |
| | 1980 | | 1990 | | 1980 | 1990 | 1980 | 1990 |
| | Num. | % | Num. | % | % | % | % | % |
| Owner-occupied | 664 | 90 | 1,003 | 91 | 70 | 70 | 70 | 71 |
| Renter-occupied | 76 | 10 | 98 | 9 | 30 | 30 | 30 | 29 |
| Total Occupancy | 740 | 100 | 1,001 | 100 | 100 | 100 | 100 | 100 |

Source: U.S. Bureau of Census

Table 6*

| | OWNER OCCUPIED HOUSING | | |
|------------------|-------------------------------|---------|-----------------------|
| | Median Value of Housing Units | | % Change 1980-1990 |
| | 1980 | 1990 | |
| | 1990 \$ | 1990 \$ | 1990\$ |
| Town of Glenburn | 65,606 | 83,312 | 27% |
| Penobscot County | 59,894 | 70,206 | 17% |
| State of Maine | 61,853 | 88,798 | 44% |

Source: Maine Department of Labor

*"Actual \$" figures correspond to the one reported in the Census every 10 years.

1990 \$ figures (constant dollars) correspond to the Census figure adjusted for inflation. The difference between actual 1990 \$ and constant 1990 \$ figures can be explained by the fact that the 1990 Census figures are gathered in 1989 and then adjusted for inflation.

Table 7*

| | RENTER OCCUPIED HOUSING | | |
|------------------|-------------------------------|---------|-----------------------|
| | Median Value of Contract Rent | | % change 1980-1990 |
| | 1980 | 1990 | |
| | 1990 \$ | 1990 \$ | 1990\$ |
| Town of Glenburn | 202 | 229 | 13% |
| Penobscot County | 289 | 340 | 18% |
| State of Maine | 282 | 364 | 29% |

Source: Maine Department of Labor

constant dollars correspond to the Census figure adjusted for inflation. The difference between actual 1990 \$ and constant 1990 \$ figures can be explained by the fact that the 1990 Census figures are gathered in 1989 and then adjusted for inflation.

VACANCY RATE

In 1990, less than 2 percent of Glenburn's owner-occupied housing units stood vacant. Vacancy rate in Glenburn is greater than the County's but less than the State's, with a vacancy rate of 1 and 2 percent respectively. The rental vacancy rate for Glenburn is 2 percent, compared

to 7 percent for Penobscot County and 8 percent for the State of Maine. Glenburn's decrease in households size reduces the acceptable standard of a 5 percent vacancy rate which in turn means the housing market is much tighter, as far as available houses, than other factors. If this trend continues it could result in a demand for housing far out stripping available housing stock subsequently leading to higher housing costs.

HOUSING AFFORDABILITY

Many factors contribute to the challenge of finding affordable housing. Major forces include: population dynamics, especially internal migration to job growth areas; the emergence of the "baby boom" generation; older residents living longer healthier lives at home; more single parent households; and generally smaller household sizes than in previous years. Many Mainers are affected by a lack of affordable housing including: older citizens facing increasing maintenance and property taxes; young couples unable to afford their own home; single parents trying to provide a decent home; low income workers seeking an affordable place to live within commuting distance; and grown children seeking housing independent of their parents.

Affordability

The affordability of housing units is of critical importance for any municipality. High costs are burdensome to individuals, to governments, and the economy of the area. Excessively high housing costs will force low and moderate income residents to leave the community, thus impacting on the labor force size.

The Department of Economic and Community Development (DECD) has suggested that communities consider options for affordable housing. Affordable housing can include manufactured housing, multi-family housing, government-assisted housing for very low, low and moderate income families, and group and foster care facilities. In addition, decreased unit sizes, smaller lot sizes, increased density, and reduced frontage requirements can contribute to a community's affordable housing stock.

More generally, affordable housing means decent, safe, and sanitary living accommodations that are affordable to very low, low, and moderate income people. Very low income households are households with annual income less than or equal to 50 percent of the applicable County (non-Metropolitan Statistical Area - MSA) median annual family income. Low income households are households with annual incomes more than 50 percent, but less than or equal to 80 percent, of the applicable County (non-MSA) median annual family income. Moderate income households are households with annual incomes more than 80 percent, but less than or equal to 150 percent, of the applicable County (non-MSA) median annual family income.

A renter-occupied housing unit is considered affordable to a household if the unit's monthly housing cost (including rent and utilities) does not exceed 30 percent of the household's gross monthly income. An owner-occupied housing unit is considered affordable to a household if the unit's selling price/market value can reasonably be anticipated to result in a monthly

housing cost (including mortgage and interest, mortgage insurance, homeowner's insurance, and real estate tax) that does not exceed 28 to 33 percent of the household's gross monthly income.

Table 8 shows the affordable monthly rent and affordable selling prices for very low, low, and moderate-income groups for Penobscot County. Although these particular breakdowns are not available for the Town of Glenburn, the figures are estimated to be similar.

Table 8

| AFFORDABLE HOUSING RENTS and SELLING PRICES, 1994 Penobscot County | | | | | |
|---|------------------------|----------------------|--------------------------|-------------------------|--------------------------|
| Median annual family income | Household income group | Annual income range | Percent total households | Affordable monthly rent | Affordable selling price |
| \$30,300 | Very low income | Up to \$15,150 | 30% | Up to \$290 | Up to \$36,800 |
| | Low income | \$15,150 to \$24,240 | 19% | Up to \$530 | Up to \$76,200 |
| | Moderate income | \$24,240 to \$45,450 | 32% | Up to \$1,020 | Up to \$131,400 |

Source: Maine Department of Economic and Community Development

Table 8A

| AFFORDABLE HOUSING UNITS | | | |
|--------------------------|--------------------------|-----------------------------|-----------------------|
| HOUSEHOLD INCOME GROUP | % OF HOUSEHOLDS IN RANGE | % OF HOUSING UNITS IN RANGE | % OF RENTALS IN RANGE |
| Very low income | 30 | 41 | 16 |
| Low income | 19 | 34 | 65 |
| Moderate income | 32 | 21 | 19 |

Source: Glenburn Assessor's Records

Table 8A indicates the percentage of housing units within each income range based on the town's tax records. The figures further support the fact that Glenburn contains sufficient affordable housing.

Ownership

During the 1980s, Glenburn's median household income rose faster than the median value of a housing unit (in constant 1990\$), with respective increases of 36 and 27 percent. One way to gauge the financial ability to buy a home is to establish a ratio between the price of the property and the income of the person wishing to buy, as demonstrated by the figures in Table 9. It should be noted that no particular number has been set which would reflect the presence of affordable homes, but as the value gets lower, homes become more affordable. Thus, the closer the ratio is to 1, the more affordable the houses are. In the ten year period from 1980 to 1990, purchasing a property in Glenburn has become more affordable. The Glenburn trend is contrary to what is happening at the County and State levels where it has become harder to purchase a home over the last ten years. In constant 1990 dollars, the ratio of median value of housing units to median household income for Glenburn, Penobscot County, and the State of Maine, are 2.5, 2.5 and 3.0 respectively.

Table 9

| | HOUSING AFFORDABILITY | | | | | |
|------------------|---|--------|---|--------|---|------|
| | Median value of housing based on 1990 constant \$ | | Median household income based on 1990 constant \$ | | Ratio of median value of housing units to median household income | |
| | 1980 | 1990 | 1980 | 1990* | 1980 | 1990 |
| Town of Glenburn | 65,606 | 83,312 | 24,965 | 33,988 | 2.6 | 2.5 |
| Penobscot County | 59,894 | 70,206 | 25,639 | 28,042 | 2.3 | 2.5 |
| State of Maine | 61,853 | 88,798 | 24,979 | 29,330 | 2.5 | 3.0 |

Source: Maine Department of Labor

*Constant 1990 \$ dollars correspond to the Census figure adjusted for inflation. The difference between actual 1990 \$ (Table 1) and constant 1990 \$ figures can be explained by the fact that the 1990 Census figures are gathered in 1989 and then adjusted for inflation.

Subsidized Housing

Local, state, and federal governments have a number of different manners of subsidizing housing costs for eligible citizens. In most cases the efforts of the different levels of government are integrated, with funding and operation and jurisdictional fields overlapping.

The United States Department of Housing and Urban Development (HUD) is the primary federal agency dealing with affordable housing. Rural Development (RD), formerly Farmers Home Administration (FmHA), part of the United States Department of Agriculture (USDA), also deals with affordable housing. The Maine State Housing Authority (MSHA) is the State's agency for such issues, and Penquis Community Action Program (CAP) is the agency for Penobscot and Piscataquis Counties. The Town of Glenburn does not have a local housing authority but does have a public welfare department which oversees general assistance, which is at times used to defray housing costs.

Subsidized units are built with state or federal monies for the express purpose of providing housing to lower income individuals and families. A housing project or development may be entirely formed by subsidized units, or the project may be of mixed uses. Subsidized units are typically available to individuals below certain income guidelines, and residents are expected to pay a fixed percentage of their income as rent.

Housing is also subsidized through certificates and vouchers. Especially when subsidized units are not available, the MSHA will provide monies for citizens to use as payment for rent for non-public units. The town is also reimbursed by the state for general assistance money which may be given to citizens with short-term immediate needs for housing. Finally, low interest loans through the federal or state governments are also a form of subsidy.

Even though elderly and family housing units may appear to be the solution to affordable housing problems, rent is only one of the many housing expenses. Many subsidized housing problems should not exclude such related problems as poor insulation and heating which can inflate total housing expenses.

Rental assistance and vouchers are used to compensate when subsidized housing units

are not available. These forms of assistance are often more expensive than providing actual units, and thus it may be in a community's best interest to facilitate the construction of housing units and/or projects.

An overlap exists between the need for "affordable and appropriate" housing and the need for "subsidized" housing. Many residents are not eligible for subsidies, but are not able to maintain houses by themselves and may not be able to afford high rents.

Sunny Gables is a 24 unit subsidized housing development for elderly people located in Glenburn. Subsidized scattered sites in Glenburn include 2 units, one family and one elderly. Glenburn's opinion survey showed support of the senior citizen complex, therefore attesting to the success of the project within the Town.

Large lot sizes, while seemingly protecting the rural character of the community, can create the potential of driving land prices higher, thus housing costs higher, thereby reducing the affordability of housing in the community. Responses to one of the survey questions regarding mobile homes indicated that residents are willing to allow mobile homes (not mobile home parks) everywhere in the community providing they have the attributes of stick built homes i.e. pitched roofs and set on some type of foundations.

LOCAL REGULATORY OPTIONS

Below are a number of options for implementation strategies which encourage affordable housing. The density bonus/cluster incentives have been included in the proposed Rural District. Three other strategies have been identified as being potential strategies for the future, if the situation arises.

Incentives

Density bonuses -- whereby the municipality allows more residential units to be built per minimum lot size than permitted in the ordinance, in return for a certain percentage of affordable housing. Some communities allow a larger density bonus for low-income housing than for moderate income housing. For example, if there is a one acre minimum lot size, and a developer has 10 acres to develop, he may be allowed to put 15 houses on it, rather than 10, if he sells 5 of them for a price affordable to low or moderate income households. There is usually a recapture clause or deed restriction associated with such housing to prevent windfall profits from accruing.

Cluster housing -- whereby a town allows developers who cluster their housing a density bonus, tied also to providing a certain percentage of it at affordable prices.

Reduction in minimum lot size and/or frontage requirements -- whereby a town permits a reduction in minimum lot size and/or frontage requirements in return for providing affordable housing.

Requirements

Inclusionary development -- that is requiring that developments over a certain size provide a given percent of its housing at affordable prices. This also would most frequently be tied to deed restrictions, etc.

Commercial/Industrial contribution -- that is requiring that commercial or industrial development provide affordable housing at a rate determined by a formula, taking into account the number of employees it expects to hire at low to moderate income wages or requiring that it contribute to a fund to develop such housing.

Other options

Land trusts -- whereby a town permits development of housing on town-owned land in exchange for the right to control the price of the housing for sale or rent. The housing itself may be sold at a given rate, but the land stays in the ownership of the town.

Town land sales -- whereby the town sells tax-acquired or other town-owned land to a developer at below market rate in return for the development, in perpetuity, of affordable housing.

Modification of infrastructure requirements -- whereby the town reviews its road and other development standards to be sure the requirements are both effective and cost efficient, and, where possible, eliminates costly requirements that do not effectively achieve environmental or other desired ends. For example, runoff control is sometimes better achieved by ditching than by underground piping, and curbs can sometimes prevent natural runoff. Streets that are wider than needed for the traffic they will bear are more expensive to maintain than are narrower ones that are wide enough for a low volume of traffic. In some cases, paths may be more appropriate than sidewalks.

PLANNING PERSPECTIVE

The Town experienced 33 percent growth of total housing units during the 1980s and 167 percent growth in mobile homes. Glenburn's housing has become more affordable and owner occupancy has increased.

Glenburn has a relatively young housing stock and rapid housing growth. The desire by residents to maintain the rural attractiveness of Glenburn is challenged by new housing development. Glenburn has witnessed a larger share than the region of housing starts. This stems from the attractiveness of the Town due to its adjacency to employment in Bangor, Old Town and Orono, yet its rural setting. The result is the influx of young families, increase in mobile homes, and rise of subdivision activity.

G. NATURAL RESOURCES

INTRODUCTION

Natural resources information is useful in identifying opportunities and constraints for development and for protecting environmentally sensitive areas. The natural resources of Glenburn also contribute greatly to the quality of life in the Town.

The goal of the Natural Resources section is to protect the quality and manage the quantity of Glenburn's water resources and critical natural resources, as well as to safeguard agricultural and forest resources from development which threatens those resources.

PURPOSE

The purpose of this section is to:

1. Identify and profile Glenburn's significant water resources, critical natural resources, and commercial farmlands and forest lands in terms of their extent, characteristics, uses, quantity, and quality;
2. Identify and profile Glenburn's critical natural resources including wetlands, wildlife, significant plants, habitats, shorelands, scenic areas and vistas, and unique natural areas in terms of their extent, characteristics, and significance;
3. Predict whether the quantity or quality of Glenburn's significant water resources and critical natural resources will be threatened by the impacts of future growth and development;
4. Predict whether the viability of important commercial farmlands and forest lands will be threatened by the impacts of future growth and development; and
5. Assess the effectiveness of existing measures to protect and preserve significant water resources, critical natural resources, and important commercial farmland and forest lands.

BACKGROUND INFORMATION

Fifty-eight (58) percent of the survey respondents indicated that the Town should encourage large land owners to register their land in the Farm and Open Space or Tree Growth Programs. A significantly large proportion of respondents, 88 percent, are in favor of regular septic system testing around Pushaw Lake.

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LOCATION AND TOPOGRAPHY

Glenburn has a surface area of 27.2 square miles or 17,480 acres. The Town is located in the Penobscot River basin, northwest of Bangor. Situated in Penobscot County, Glenburn is bordered by Bangor, Orono, Old Town, Hudson, Kenduskeag, Levant, Hermon; and Pushaw Lake.

Within Glenburn, most elevation changes are gradual with gently rolling to undulating topography. Elevation changes range from over 300 feet in the southwest corner to 100 feet adjacent to Black Stream in the northwest corner of Town and adjacent to Kenduskeag Stream in the south.

Streams and rivers create "valleys" through their natural erosion process, such as that created by the Kenduskeag Stream. The flatter areas often contain wetland areas because of the limited drainage resulting from lack of relief.

BEDROCK GEOLOGY

Bedrock geology refers to the rock which underlay soils. Glenburn's bedrock consist of early Silurian formations which are part of the Kearsarge-Central Maine Synclinorium. This is composed of calcareous sandstone (sedimentary rock); inter-bedded sandstone; and impure limestone. Metamorphic rock found in Glenburn are call greenshist. There are no known fault lines or indications of seismic activity. Bedrock geology affects the ability of development to build (based on how far below grade bedrock is located) on a given site and limits septic tank installation. Glenburn's bedrock is extremely stable with no indications of movement from potential seismic activity.

SURFICIAL GEOLOGY

Glenburn's surficial geology is primarily glacio-marine deposits consisting of silt, clay, and sand, found in the flat to gently sloping areas except what has been eroded by stream action. Other areas are swamp, marsh, and bog deposits consisting of peat, muck, clay, silt, and sand usually located in flat areas. The third type is till. Till is a heterogeneous mixture of sand, silt, clay and stones found on glacially streamlined hills and is directly deposited by glaciers.

LAND SUITABILITY

Septic systems should be constructed carefully on poorly drained soils, soils with high water tables, and on shallow to bedrock soils. Development and use of poorly suited soils are the underlying cause of many environmental and economic problems. Water pollution, high cost and maintenance of public services, and the destruction of existing wildlife and scenic values are just a few of the existing ways that a community ends up paying because of improper land use.

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The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) has prepared soil classification maps by county for the State of Maine. Project land suitability analysis, known as soil surveys, can be used to produce maps depicting the appropriateness of land areas to various land uses. The survey consists of an inventory, description, and evaluation of the soils within each County. The survey classifies all soils within a county into soil series. The classification is based on characteristics of the soil, including texture (percentage of sand, silt, clay), permeability, slope, wetness, and so on.

The Glenburn portion of the Penobscot County soil survey map and interpretations of the soil survey can provide information on potential ratings reflecting the potential of use rather than the limitations of use (Appendix A). Soil Potential for Low Density Urban Development is broken down into four categories: Septics, Dwellings, Roads, and Development.

Soil Potential for Low Density Development (LDD) (Appendix A)

Soils that are wet, steep, subject to flooding, shallow to bedrock or restrictive layer, or have a coverage of stone or boulders are often more expensive to develop. To minimize these impacts, soils limitations need too be recognized and identified. A rating system called Soil Potential for Low Density Development (LDD) has been developed by the SCS to enable the rating of soils for this purpose. LDD is defined as 3-bedroom single family unit residences with basements and comparable buildings covering 2,000 sq. ft. and subsurface wastewater disposal system, with or without on-site source of water. Paved roads in development are also included. Residences may be a single unit or a cluster of units in a development. The subsurface wastewater disposal system would have the capacity of processing 270 gallons per day of effluent and would be installed according to the Subsurface Wastewater Disposal Rules, Chapter 241, of the Maine Department of Human Resources (DHS), Division of Health Engineering.

Soils potential have been developed by selecting the best suited soil County-wide for LDD. A map unit of Hermon fine sandy loam, 2 to 8 percent slopes (HbB), possesses all the desirable properties for low density development uses. It is the best simply because it has the fewest limitations and therefore is the least expensive soil on which to construct a home, septic system, and a road. HbB has been established as the reference soil for Penobscot County. Since all the soil properties are desirable, the Soil Potential Index for this Hermon soil is 100. All other soils in Penobscot County will have an index of less than 100, unless a soil has equal properties to the Hermon soil. The Soil Potential Index, a numerical rating of the soil ranging from 0 to 100, is based on the performance of the reference soil minus the values of corrective measures (costs for overcoming soil limitations are developed and converted to index points). The Soil Potential Rating is based on the index value obtained after the corrective measures have been subtracted from 100. Since the entire range is large, these numerical ratings are separated into Soil Potential Rating Classes of very low to very high.

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STEEP SLOPES AND HYDRIC SOILS

Slope is one of the most noticeable of soil properties. It is a major component of the landscape and is one of the most significant soil properties governing land use. Most land use and development takes place on the less sloping areas, areas with slopes of less than 15 percent (representing an average drop of 15 feet or more in 100 feet horizontal distance). On steep slopes, areas with slopes of 15 percent or more, soils present problems for buildings, roads, and septic systems. The costs of engineering foundations and installing septic or sewer and other utility systems increase.

Slopes in Glenburn are mostly gentle (15 percent or less) and are thus not a significant factor in limiting development. Map 4 shows areas of steep slopes (15 percent or more). The National Wetland Inventory Map (Appendix B) shows most of Glenburn's Wetlands.

Soils, slope and wetlands can be utilized in Glenburn's land use ordinances to direct and control various types of development. Utilizing this same information can provide the Planning Board with useful information as to the likelihood of where certain types of development are likely to occur.

FARMLANDS

Important farmland, mapped by the USDA, is enclosed in Appendix C. Important farmlands can be divided into several categories. Glenburn has approximately 1,360 acres of prime farmland, covering about 8 percent of Glenburn's land area. Prime farmland is defined as "the best" nationwide for producing food, feed, fiber, forage, and oilseed crops. Criteria for prime farmland is tied directly to soil protection properties and not land use, except for urban land. If the land is urban, or built-up, it cannot be prime farmland. Prime farmland can be land in cultivation, forest, pasture or idle, and it can be remote or inaccessible.

Additional farmland of statewide importance covers about 1,730 acres, or 10 percent, of Glenburn's land area. This land is also defined as important for the production of food, feed, fiber, forage, and oilseed crops, but not included in prime or unique farmlands. In 1996, there was no land registered in the Farm and Open Space Tax Law program in Glenburn.

Existing Protection Measures

Farm and Open Space Tax Law

Farm land is eligible for the Farm and Open Space Tax law Program (Title 36, MRSA, Section 1101, et seq.) if that farm consists of at least 5 contiguous acres in a single Town and has shown gross earnings from agricultural production of at least \$2,000 during one of the last two years or three of the last five years.

The Farm Land and Open Space Tax Law encourages landowners to conserve farmland and open space by taxing the land at a rate based on its current, rather than potential, use if landowners agree not to develop their property. The benefit of this program is that it enables farmers to continue their way of life without being forced out of business by excessive property taxes, which can be brought about by rising land valuations.

Farmland and Registration Program

Another program is the Farmland Registration Program designed to protect the farmers' right to farm their land. Upon registration, a farmer is guaranteed a 100 foot buffer zone between the productive fields and new incompatible development, such as residential development. The Farmland Registration Program also lets new and potential abutter know that a working farm is next door.

Mandatory Shoreland Zoning and Subdivision Law

State legislation provides environmental guidelines and mandates shoreland zoning and subdivision, which consider agricultural issues.

FOREST LANDS

Maine's forests and forest industry still play a vital role in the State's economy. The forest also provides an abundant and diverse wildlife population for use and enjoyment of all Maine citizens. Furthermore, the forest protects the soil and water and contributes to a wide variety of recreational and aesthetic experiences. The forest provides a wide variety of wildlife habitats for both game and non-game species. Loss of forest land can be attributed to fragmentation and development. It also can be attributed to valuation and taxation. The following are examples, when the value of forest land is based on a fair market value, not the ability to grow trees; when assessed a penalty of up to 30 percent of the fair market value of the land for its withdrawal from the Tree Growth Tax Law Program; or when forest land is sold and resold speculatively. In addition, when forest land is fragmented, public access becomes more restricted due to increased land posting. To optimize forest land usage, it should be effectively managed and harvested.

A visual examination of Glenburn's 7.5" USGS topographical map shows that approximately 80 percent of the land area is forested. According to the 1996 Municipal Valuation Return, Forest land, including waste acreage (bogs) listed under the Tree Growth Tax Law, represents 1,441 acres in Glenburn.

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Existing Protection Measures

Tree Growth Tax Law

The Tree Growth Tax Law (Title 36, MRSA, Section 571, et seq.) provides landowners with the opportunity to apply for tax valuations of timberlands and woodlands based on their current use (i.e., for timber and wood production). This encourages land owners to retain and use their timberland and woodlands and, if managed properly, conserves the wildlife habitats these forested areas provide.

Forest Practices Act

The State Forest Practices Act regulates timber harvesting activities in forests that give protection to land by allowing tax incentives to owners of those lands who meet the appropriate definitions. However, forest resources adjacent to residential development will need to be protected (in order to preserve the residential character) with additional timber harvesting standards and at the discretion and application of the owners of parcels less than 500 acres but more than 10 acres in size. The Act taxes forest land on the basis of its potential for annual wood production as opposed to an added value basis.

Mandatory Shoreland Zoning, Subdivision Control Law, and Clear Cutting

State legislation provides environmental guidelines and mandates regarding shoreland and subdivision activities which consider forestry issues, as well as regulations on clear cutting.

WATER RESOURCES

Surface Waters

Watersheds

All waters are connected; pollution to one source will affect another within a watershed. It is important to remember that everything occurring in a watershed and everything that can be transported by water will eventually reach and impact the water quality of a water body. Development activities, such as house and road construction and timber harvesting, may disturb the land that drains to a lake through streams and groundwater. In other words, these activities may disturb the watershed. The disturbed and developed land contributes pollutants and other substances to the lake. Activity anywhere in the watershed, even several miles away, has the potential to impact lake water quality.

Glenburn's Pushaw Lake watershed (drainage area) covers 53,695 acres. Watershed communities include Bangor, Bradford, Charleston, Corinth, Glenburn, Hudson, Old Town and Orono, as illustrated on Map 5. The Town of Hudson encompasses 32 percent of the

watershed, Bradford 17.4 percent, Corinth 12.9 percent and Glenburn 10.7 percent, Charleston 21.7 percent, Old Town 2.4 percent and Orono 2.9 percent.

Freshwater Wetlands

The term "wetlands" is defined under both State and federal laws as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support prevalence of vegetation typically adapted for life in saturated soils." Wetlands include freshwater swamps, bogs, marshes, heaths, swales, and meadows as shown in Appendix B. There is no longer a ten-acre threshold associated with regulated freshwater wetlands.

Wetlands are important to the public health, safety and welfare because they act as a filter, absorb excess water, serve as aquifer discharge areas, and provide critical habitats for a wide range of fish and wildlife. They are fragile natural resources. Even building on the edge of a wetland can have significant environmental consequences. Some wetlands have important recreational and educational value providing opportunities for fishing, boating, hunting, and environmental education. Planning efforts should take into account the constraints of these areas.

The Maine DEP has identified 25 non-forested freshwater wetlands located within Glenburn, as illustrated on Map 6. Wetlands are rated based on type and size. Two wetlands were identified as having high wildlife value rating, six as having moderate value and the remaining 17 have not yet been rated. These wetlands were identified as wetlands by air photo interpretation. Interpretations were confirmed by soil mapping and other wetland inventories. The Town of Glenburn recognizes the need and importance of accurate wetland delineation and supports field verification of the location and boundaries of wetlands prior to development.

Wetland alterations can contribute to wetland loss. Most common sources of alterations include: commercial, residential and urban development; transportation and roads; floodplain development; pollution; peat mining; timber harvesting; and agriculture.

Rivers, Streams, and Brooks

According to Maine's Natural Resource Protection Act (NRPA), a river, stream, or brook is a channel that has defined banks (including a floodway and associated floodplain wetlands) created by the action of the surface water. There are no rivers flowing through Glenburn. Glenburn's streams and brooks consist of:

Streams
Kenduskeag Stream
Black Stream

Brooks
Lancaster Brook
Great Brook

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To assess what portion of Maine's rivers, streams, and brooks meet the goal of the Clean Water Act, DEP uses bacteriological, dissolved oxygen, and aquatic life criteria. All riverine waters are classified into one of four categories: Class AA, A, B, and C. These classifications are defined by legislation, with Class AA being the highest classification with outstanding quality and high levels of protection. Class C, on the other end of the spectrum, is suitable for recreation and fishing yet has higher levels of bacteria and lower levels of oxygen.

The 1996 Report to Congress, pursuant to Section 305(b) of the Federal Water Pollution Control Act, as amended, indicates that the portion of Kenduskeag Stream running through the Town of Glenburn attains the standards of its assigned B and C classification.

Lakes and Ponds

Pushaw Lake

Within its boundaries, the Town of Glenburn has one great pond - Pushaw Lake. The lake shoreline located within the political boundary of Glenburn is mostly developed, with the exception of a few marshy areas. It covers 5,056 acres, the maximum depth is 28 feet and the mean depth is 11 feet. The water quality status of the lake is moderate stable, indicating average water quality but high potential for phosphorus recycling from lake bottom sediments.

Pushaw Lake is a mesotrophic lake¹ (a little murky, supporting higher levels of biologic activity, unable to support cold water fisheries). It is highly colored with natural dissolved organic compounds². Pushaw has a relatively low exchange rate of only 1.96 flushes per year³. The University of Maine Water Resources Program classified Pushaw as having a moderate to highly developed shoreline with homes and cottages and with good to excellent water quality⁴. The Maine DIFW rates Pushaw Lake as an "outstanding" and significant State resource⁵.

Pushaw Lake is part of the DEP Voluntary Monitoring Program (VMP). Testing is performed by four DEP trained volunteers from the Pushaw Lake Association biweekly from May through October at the Deep Hole (28 feet), Mags Ledge (34 feet), and Dollar Island (10 feet). The tests performed include Secchi disc for clarity, phosphorus levels, dissolved

¹University of Maine Geographical Digest Series Survey, University of Maine, Maine lakes, March 1995.

²1996 DEP VMP Report.

³1996 DEP VMP Report.

⁴University of Maine Geographical Digest Series, University of Maine, Maine lakes, March 1995.

⁵University of Maine Geographical Digest Series, University of Maine, Maine lakes, March 1995.

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oxygen, and temperature every meter from surface to bottom. The data collected from the VMP allows the DEP to classify Pushaw as moderate stable.⁶

A more comprehensive lake study, done in 1995, showed greater levels of phosphorus and lower levels of dissolved oxygen entering the lake at the inlet.⁷ On August 11, 1996 a dissolved oxygen level of 2.1 was recorded, 1.0 being considered incompatible with fish life.⁸ On October 19, 1996 a phosphorus of 18ppb was recorded, significantly higher than the State average of 14ppb.⁹

Pushaw Lake supports a growing population of Loons, Eagles, Ospreys, Great Blue Heron, and other waterfowl in its wetlands. Pushaw Lake is a significant natural and recreation resource for Glenburn and the region, therefore it is in the best interest of Glenburn to protect the water quality for future generations. To safeguard Pushaw Lake, Glenburn needs to support the VMP, continue enforcement of erosion and sedimentation standards, ensure adequate septic systems, and promote the development of a watershed management plan.

Floods

Principal Flooding Problems - According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Study, there are no major flooding problems in Glenburn and consequently no flood protection measures are located within the Town. As a general rule, the flood prone areas in Glenburn are adjacent to Lancaster Brook, Pushaw Lake, and Kenduskeag Stream. Map 7 shows where flooding is most likely to occur in Glenburn.

Floodplains - Floodplains are defined as areas adjacent to a river, stream, lake, or pond, which can reasonably be expected to be covered at some time by floodwater. The primary function of floodplains is their ability to accommodate large volumes of water from nearby overflowing channels and dissipate the force of flow by reducing the rate of flow through a widening of the channel. A floodplain may also absorb and store a large amount of water, later becoming a source of aquifer recharge. Floodplains also serve as wildlife habitats, open space and outdoor recreation, and agriculture without interfering with their emergency overflow capacity.

Intensive urban development on floodplains and flood prone areas can increase the severity of floods and cause flooding of previously unaffected areas. The major consequence of intensive development in floodplains and flood prone areas is the widespread property damage and loss of life, which results from severe flooding. Other significant consequences

⁶1996 DEP VMP Report.

⁷1995 VMP Data Sheet.

⁸1996 VMP Data Sheet

⁹ DEP Explanation Report.

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include the public costs associated with cleanup and rebuilding, increased insurance costs, and water contamination from toxic and hazardous materials.

The Town of Glenburn participates in FEMA's Flood Insurance Program, and its flood protection consists of a Floodplain Management Ordinance. Intensive development in floodplains, floodprone areas, and "special flood hazard areas" should be avoided. In addition, existing development and incompatible land use activities should not be permitted to expand and should be amortized for their eventual elimination, to the maximum extent possible.

Surface Water Protection

Protection of Glenburn's surface water takes place at the local, State, and federal levels, and sometime at more than one level simultaneously. At the local level, Glenburn's surface water is protected through Shoreland Zoning (Map 8), Site Plan Review, and Plumbing Code, Floodplain Management, Land Use, and Subdivision Ordinances. Surface water protection at the State level encompasses: the Site Law, Public Water Supply Regulation, NRPA, Hazardous Law, and Underground Tank Regulation. Finally, protection at the federal level consists of: Wetlands Protection, the Clean Water Act, the Resources Conservation and Recovery Act, the Safe Drinking Water Act, and the Superfund Amendments and Reauthorization Act.

Groundwater

Sand and Gravel Aquifers

Aquifers may be of two types: bedrock aquifers and sand and gravel aquifers. A bedrock aquifer is adequate for small yields. A sand and gravel aquifer is a deposit of coarse-grained surface materials that, in all probability, can supply large volumes of groundwater. Boundaries are based on the best known information and encompass areas that tend to be the principal groundwater recharge sites. Recharge to these specific aquifers, however, is likely to occur over a more extensive area than the aquifer itself.

In 1981, the Maine Geological Survey identified nine significant sand and gravel aquifers within the Town of Glenburn, as shown on Map 9. All nine aquifers have moderate to good groundwater potential yield (greater than 10 gallons per minute). Glenburn shares an aquifer with the Town of Hudson and another one with the City of Bangor. Lying over these aquifers are several gravel pits.

Map 9 can be used to identify surface sites that are unfavorable for storage or disposal of wastes or toxic hazardous materials. Wells drilled into sand and gravel aquifers can become contaminated easily and impact great volumes of water. It is important to protect groundwater from pollution and depletion. Once groundwater is contaminated, it is difficult, if not impossible, to clean. Contamination can eventually spread from groundwater to surface water and vice versa. Thus, it is important to take measures to prevent contamination

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before it occurs. Possible causes of aquifer and surface water contamination include faulty septic systems, road salt leaching into the ground, leaking above ground or underground storage tanks, agricultural run-off of animal waste, auto salvage yards, and landfills. Protecting a groundwater resource and preventing contamination are the most effective and least expensive techniques for preserving a clean water supply for current and future uses.

Groundwater flows according to geography, not municipal boundaries. Consequently, it is essential that all communities sharing groundwater resources and recharge zones should work together to protect the resource. This regional cooperation includes coordination between communities to ensure consistent regulations and enforcement of them to develop a regional water quality protection plan, as appropriate.

Upon review of the yield of these aquifers, it is not likely that they could be a viable water supply for the community and none of the aquifers are located within the designated growth area. If at such time these aquifers are determined to be a viable resource, the town will initiate the appropriate protection action.

Water Quality Protection

Threats to water resources typically include land uses which have the potential of discharging pollutants into the water resource. Threats are divided into two categories: point and non-point source discharge.

Point Source Discharge

Point source discharge refers to a place on the ground where discharge of pollutants or potential pollutants can readily be identified as the source of the pollutants. Point source discharge includes overboard discharge, injection wells, and oil spills. According to the DEP, there are no licensed overboard discharge in Glenburn. Injection wells consists of the discharge of wastewater containing hazardous or toxic pollutants into the ground. Automotive repair facilities floor drains equipped with or without an oil/water separator are referred to as injection well and are illegal in Maine. Injection wells pose a threat to underground water and nearby wells. If any such floor drains still exist in Glenburn the Town in conjunction with DEP will work with the property owners to find alternative solution. Oil spills are another point discharge that can potentially adversely affect ground and surface water. Oil spill should be immediately reported to DEP.

Non-Point Source Pollution

Threats to water bodies include non-point source pollution through erosion and sedimentation resulting in an increase in phosphorus levels. Erosion occurs because of soil disturbances by people. Water-generated erosion causes the most severe damage to a site undergoing development. A serious consequence of erosion is sedimentation; sedimentation of water bodies can cause "algal bloom," which occurs when a water body has high concentrations of phosphorus attached to soil particles. All water bodies have the ability to

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absorb some phosphorus before there is an adverse impact on the quality of the water. However, when the phosphorus load to a lake becomes too great, the phosphorus acts as a fertilizer and causes algae to flourish. Pollution from non-point sources include: agricultural run-off, gravel pits, sand and salt storage, waste lagoons, roadside erosion, leaking underground storage tanks, and hazardous substances.

Another important source of non-point source pollution is development. Development generally increases storm water runoff caused by the change in land cover. Increased impermeable surfaces accelerate stormwater runoff, reducing the time during which sediments and pollutants would normally settle out of the storm water. Phosphorous is known to cause the deterioration of surface water quality by "feeding" algae in ponds and lakes.

Gravel pits disturb water resources through the alteration of ground water levels, exposing ground water to surface pollutants, and discharge of pollutants from mining equipment. Known gravel pits are located on Pushaw Road, Marston Meadow, Kenduskeag Stream, Double A Landing Road, Sandy Beach Road, and at the Hudson Town line.

CRITICAL NATURAL RESOURCES

Maine Natural Areas Program

The Natural Areas Program is administered by the State Department of Conservation. The program includes Rare and Unique Botanical Features and Registered Critical Areas.

Rare and Unique Botanical Features - Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Seven rare or endangered Botanical Features have been identified in Glenburn; 1) Wild Garlic - *Allium canadense*), 2) Wild Leek - *Allium Tricoccum*, 3) Water Stargrass - *Heteranthera Dubis*, 4) Orono Sedge - *Carex Oronensis*, 5) Acidic Pondshore - *Inland New England Acidic Lakeshore/Pondshore*, 6) American Shore-Grass - *Littorella Americana*, and 7) Floodplain Forest - *Northern New England Floodplain Forest*. Since Glenburn is a rural residential community, the protection of unique features is consistent with the residents' desire of maintaining the rural character of the community.

Wildlife Habitats

Conserving an array of habitats and their associated wildlife species will help in maintaining biological diversity and ensuring that wildlife and human populations remain healthy. To feed and reproduce, wildlife relies on a variety of food, cover, water, and space. Development often has negative impact on these, resulting in the loss of habitats and diversity, habitat fragmentation and loss of open space, and the loss of travel corridors.

Significant Wildlife Habitat - In June of 1994, DIFW had identified three **potential** deer wintering areas (DWA): Lancaster Brook, Route 221/Pushaw Road north of Lakeview

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Road, and Hollis Bog. The DWAs all have indeterminate wildlife value ratings. It is the belief of the Town of Glenburn that DWA are not static. Should a development be proposed, the burden would be on the developer to comply with applicable DIFW restrictions and meet the provisions set forth by the reviewing authority.

DIFW has also identified 14 waterfowl and wading bird habitats (WWH), including nesting and feeding areas within the Town of Glenburn, as shown on Map 10. The locations of Glenburn WWHs are: north of East Bangor, west of Squirrel Island, tributary to the Pushaw Lake, west of Twin Island, northeast of Halfmoon Meadow, upper Lancaster Brook, west of Sandy Beach, Hollis Bog, south-southwest of Hollis bog, adjacent to French Point, south of French Point, adjacent to Black Stream, south of Marston meadow, and west of Marston meadow. All of the WWHs have indeterminate wildlife value ratings with the exception of the Upper Lancaster Brook area which has a moderate rating.

Other Area of Critical Concern

Freshwater mussels - Pushaw Lake is home to two rare mussel types including the Tidewater Mucket - *Leptodea Orchracea* and the Yellow Lampmussel - *Lampsillis Cariosa*. Both mussels are recommended for Threatened status.

Habitat integrity, including flow rate, water depth, water chemistry and temperature, availability of fish hosts, and substrate, is an important component influencing mussel survival. Freshwater mussels are very sensitive to contaminants and changes in their environment. Consequently, freshwater mussels are one of our most valuable indicators of water quality and ecosystem health. Freshwater mussels are in trouble because pollution, dams and other water control structures, channelization, dredging, and sedimentation have all contributed to the degradation and loss of mussel habitat.

FARMS

There are several farms located within the Town of Glenburn. Those farmers who have voluntarily registered their farms with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) receive assistance with non-point source pollution and manure management. Nevertheless, Glenburn residents have often complained of the overwhelming smell emanating from the fields when sludge is spread. There also have been similar complaints when farmers spread septage on their fields.

SCENIC AREAS AND VIEWS

Within the Town of Glenburn are several scenic areas. The descent on Lucky Landing and Lakeside Landing offers a beautiful scenic view on Pushaw Lake. Looking west from the Hudson Road, between Broadway and Lancaster Road, is a panoramic view of a farm vista set against the rolling hills. Ohio Street, near the Terrill property provides a sweeping view of the mountains toward Dixmont. Finally, Marston Meadow is a unique and beautiful scenic area.

PLANNING PERSPECTIVE

About 80 percent of the Town's land is forested, slopes are mostly gentle, and soils are quite wet in the most northern upper left quadrant. There are 25 non-forested wetlands, nine significant sand and gravel aquifers, seven rare or endangered Botanical Features, four potential deer wintering areas, as well as 14 waterfowl and wading bird habitats.

Glenburn's Pushaw Lake watershed covers 53,695 acres. Watershed communities include Bangor, Bradford, Charleston, Corinth, Glenburn, Hudson, Old Town and Orono. The lake shoreline located within the political boundary of Glenburn is mostly developed, with the exception of a few marshy areas. The water quality status of the lake is moderate stable, indicating average water quality but high potential for phosphorus recycling from lake-bottom sediments. Pushaw Lake supports a growing population of Loons, Eagles, Ospreys, Great Blue Heron, and other waterfowl in its wetlands. In addition, the Lake is home to two rare mussel types. Pushaw Lake is a significant natural and recreation resources for Glenburn and the region, therefore it is in the best interest of Glenburn to protect the water quality for future generations.

The natural resources of Glenburn are a very important element in planning for the Town's future. Considerable discussion has taken place on protecting natural resources and limiting the impact of development from degrading the quality of the natural resources. The future land use ordinance will consider the location of its natural resources and discourage incompatible development in those regions.

H: RECREATION

INTRODUCTION

Open space relates to undeveloped land. Open space includes agricultural and forest lands, wetlands, mountains, lake shores, and river corridor, as described in this section. While not all open space is accessible to the public, areas such as parks, ball fields, snowmobile trails, and areas for hunting are all part of open space and are used for recreation. Many residents feel that, since Maine is largely a rural State, there will always be plenty of open space. As Glenburn's population rises, pressures on undeveloped land will also increase. The goal of this section is to promote and protect the availability of outdoor recreational opportunities for all citizens, including access to surface waters.

PURPOSE

The purpose of this section is to:

1. Identify and profile Glenburn's major open space areas, major public and private recreational facilities, and public access points to surface waters in terms of their characteristics and use;
2. Assess the adequacy of those open space areas, recreational facilities, and public access points in handling current use demands;
3. Predict whether additional open space areas, public access points, or recreational facility improvements will be needed to adequately accommodate the use demands of the projected population; and
4. Predict whether the availability of major private open space areas for public recreation use will be threatened by the impacts of growth and development.

BACKGROUND INFORMATION

Recreation is an aspect of both community and society, which is rapidly growing. Access to recreation facilities within Glenburn is receiving increased attention as residents seek out ways and means of utilizing their leisure time. Coupled with a more rapid paced life style, recreational pursuits are viewed as an important element of their community. The importance of recreational facilities in the community for residents is that they provide an outlet for physical exercise and/or release of stress/tension.

Traditionally, rural Maine communities have not actively pursued creating recreational facilities or programs since that was perceived as the realm of the individual. More importantly, rural communities did not have the financial resources to construct capital intensive facilities. As a result, recreational facilities and their programs were left to the private sector or the

community to organize without municipal assistance. People considered recreation available by just walking out their back door and engaging in whatever activity they choose.

More recently, communities are experiencing the effects of increased population which often translate into demands for new or expanded services such as recreation. In many cases, the growth in the community reaches a point where community recreation facilities and programs can be implemented due to sufficient community support and the availability of funding mechanisms.

LOCAL RECREATIONAL FACILITIES

Listed below is a description of Glenburn's local recreational facilities, as illustrated on Map 11.

Glenburn Elementary School

The recreational facilities of the Glenburn Elementary School, located on the Hudson Road, are in overall excellent condition. Outdoor facilities include two ball and soccer fields, outdoor basketball court, creative and school playgrounds, nature trail (1/2 mile) with tree/plant identification which is also used by the school cross-country running team, new concession stand, as well as benches and picnic tables. The school also includes a gymnasium that is open for public use. Parking is sufficient and in good condition.

Lakeside Landing

Lakeside Landing is located on the West side of Pushaw Lake. The site is used for swimming and boat launching and includes a multi-purpose field. Parking is sufficient and in good condition. There are also picnic tables, privies (out-houses), and a small building. Wal-Mart donated \$17,000 to be used for site improvement to include changing rooms and nature trails.

Weston Smith Facility

Located behind the Elementary School on the Hudson Road, facilities at this location are in excellent condition and include two ball/soccer fields. There are plans to build the proposed Glenburn Middle School on this property, which would result in new recreational facilities but the loss of the existing ball/soccer fields.

West Glenburn Recreational Facility

The West Glenburn Recreational Facility, located on Ohio Street, was purchased in 1996. The site encompasses 25 acres of unimproved land. Future plans include ball fields, playground, tennis courts, nature trails, as well as a fire station and a sand and salt storage shed. An old

cemetery, dating back to the 1800s, is located on the property and being restored by the Boy Scouts.

West Glenburn Community Center

This building houses the Fire Department's sub-station and the community center. Located at the corner of Ohio and Philips Road.

Glenburn Municipal Building

This building includes the Town Office, a kitchen and a large open room where meetings and sometimes dances take place.

Snowmobile Trails

The Glenburn's Lakeside Riders do an excellent job maintaining local snowmobile trails. Glenburn's trail systems is connected to the International Trail System (ITS).

LOCAL RECREATIONAL PROGRAMS

Local recreational activities include baseball/softball/T-ball, soccer, arts and crafts during the summer and martial arts, basketball, volleyball, roller blading, and fitness classes during the fall and winter seasons. Also offered are wheelchair sports such as basketball. Skiing is offered; children are bussed to Mount Hermon for this activity. Glenburn's scouting programs are very active. Future programs are likely to include field hockey.

Glenburn Elementary School provides a multitude of recreational activities to its students including cross-country running, soccer, basketball, baseball, softball, volleyball, soccer, field hockey, cheerleading, and dancing.

Other local recreational activities include Beano, dancing, charity dinners, waterskiing, horse back riding, dog field trials and retrieving, paint balls, target shooting, snowmobile racing, as well as other activities.

REGIONAL FACILITIES

In addition to recreational facilities within Glenburn, there are numerous facilities in close proximity to Town. The neighboring communities of Bangor, Old Town, Orono, Hudson, and Levant all have various municipal recreational facilities available to their residents, as well as to Glenburn's. Several private or semi-private organizations within these communities also have recreational programs and facilities open to the residents of Glenburn.

Of particular significance is the Kenduskeag Stream, which is extensively used in the spring for canoeing and kayaking. Downhill and cross-country skiing facilities are also located

in Hermon, Greenville, Dixmont and Dover-Foxcroft. Golf courses in Bangor, Hermon, Orono, Old Town and Kenduskeag are accessible to Glenburn residents.

ACCESS TO SURFACE WATER

Town-owned Lakeside Landing provides Glenburn residents with adequate access to Pushaw Lake. In addition, there are also numerous private access to Pushaw Lake for swimming, boating, sea plane, etc.

PLANNING PERSPECTIVE

As discussed throughout this section, there are numerous recreational opportunities within the community and in the surrounding area. Most of the recreational opportunities within Glenburn rely on the rural nature of the municipality, therefore private land. Loss of traditional access caused by development would have an adverse affect on outdoor recreational opportunities in Glenburn. At the same time, there is a desire by many residents for the town to sponsor recreation programs and construct facilities to offset losses caused by development. The overall challenge to accomplishing this goal is to achieve a balance between expanded recreational opportunities without disproportionately raising the tax rate.

I. TRANSPORTATION

INTRODUCTION

Glenburn's transportation system is an important element of the planning process as it constitutes the network on and through which goods, services and people move. Only through adequate roads and control flow can a community be assured of economic, efficient, and safe circulation pattern. Accessibility to transportation is one of the primary factors in the location of businesses and residents within Glenburn. The goal of this section is to plan for, finance, and develop an efficient system of transportation facilities and services to accommodate anticipated growth and economic development.

PURPOSE

The purpose of this section is to:

1. Identify and profile Glenburn's roads and transportation systems in their extent, capacity, and use;
2. Assess the adequacy of these systems in handling current use demands;
3. Predict whether transportation improvements will be needed to adequately accommodate the use and demands of the projected population and development within the Town and region; and
4. Estimate the general costs of providing the needed transportation systems and parking facility improvements.

BACKGROUND INFORMATION

In the Public Opinion Survey there are several questions which relate to local roads and transportation. Road maintenance, as a municipal service, was perceived by over 70 percent as needing some or much improvement over current levels. Winter maintenance (snow plowing/sanding) was perceived by 69 percent as good or adequate. It is interesting to note that the response to the question about the Town's responsibility for discontinued or private roads shows 42 percent felt the homeowners or developers should pay to bring the road up to Town standards and 25 percent felt the Town should pay to bring such roads up to Town standards.

REGIONAL TRANSPORTATION NETWORK

Regionally, Glenburn relies on the availability of various transportation modes offered in Bangor. Air travel is available through the Bangor International Airport. Commercial bus service is also available in Bangor. In addition, Glenburn's close proximity to Interstate 95 also aids in the movement of goods and services. While the Penobscot River

does not serve the role it once did as a transportation link, the river's access to Penobscot Bay may be of future significance.

ROAD INVENTORY

The majority of roads in Glenburn originated in the early days starting off as pathways or carriage trails. These roads followed the easiest routes and were not concerned with sharp corners, intersections, blind drives, rights-of-way, etc. As these Town roads experience increased traffic, higher speeds and larger vehicles, the roads were often not improved. In recent years, the Maine Department of Transportation (DOT) through its Local Roads Assistance Program has attempted to assist municipalities in improving these hazardous areas. The close proximity of Glenburn to Bangor over relatively good roads is one of the main reason why Glenburn has become a bedroom community for Bangor.

Roads can be divided into three categories of road function: arterial, collector, and local. Arterial roads are major roadways, which serve long distance, high speed, through-traffic safely between communities. State highways, the most important travel routes in the state, are arterial roads. Collector roads collect and distribute traffic to and from the arterial routes and generally provide access to abutting land. They serve places of lower population densities and are somewhat removed from main travel routes. Local roads are all roads not in the arterial or collector classification. Local roads provide access to adjacent land areas and usually carry low volumes of traffic.

There are 2.46 miles of arterial, 13.34 miles of collector and 26.36 miles of local roads, as well as 6.21 miles of public easement roadways within the Town of Glenburn. A listing of all roads within the Town of Glenburn can be found in Table 1 and their geographic location is illustrated in Map 12.

The Town of Glenburn is planning to discourage sprawl and encourage adjacent development. The Town would like to encourage pedestrian links between neighborhoods. Also important are safe traffic patterns and easy access for emergency vehicles.

Table 1

| ROADWAY INVENTORY Town of Glenburn | | | | | | |
|---------------------------------------|-----------------|-----------|-------|-------------|----------------------------|-----------|
| Name of Roadway | Arterial | Collector | Local | Public Eas. | Owned/maintained | Surfacing |
| | Lenght in Miles | | | | | |
| AA Landing | | | 0.73 | | Town-owned/Town-maintained | Paved |
| Albert Lane | | | 0.20 | | Town-owned/Town-maintained | Paved |
| Ambrose Lane | | | 0.11 | | Private | Gravel |
| Aspen Ridge Road | | | 0.29 | | Town-owned/Town-maintained | Paved |

| ROADWAY INVENTORY Town of Glenburn | | | | | | |
|---------------------------------------|------|------|------|------|---|-----------|
| Beech Grove Avenue | | | 0.25 | | Town-owned/Town-maintained | Paved |
| Birch Avenue | | | 0.43 | | Private | Pav./Dirt |
| Beechwood Avenue | | | | | Public Easement/Town-maintained | Dirt |
| Brasley Avenue | | | 0.30 | | Town-owned/Town-maintained | Paved |
| Brasslett Drive | | | 0.15 | | Private | Dirt |
| Broadway (Rte. 15) | 2.46 | | | | State-owned/State-Plowed | Paved |
| Cedar Breeze Center | | | | 0.53 | Public Easement/Town-maintained | Dirt |
| Cedar Breeze North | | | | 1.91 | Public Easement/Town-maintained | Pav./Dirt |
| Cedar Breeze South | | | | 0.71 | Public Easement/Town-maintained | Dirt |
| Clark Road | | | 0.28 | | Levant and Glenburn-owned/Town-maintained | Dirt |
| Clewley Drive | | | 0.26 | | Private | Gravel |
| Cressy Avenue | | | 0.72 | | Private | Dirt |
| Cushing Drive | | | 0.15 | | Private | Dirt |
| Danforth Drive | | | 0.10 | | Private | Gravel |
| Deer Run Road | | | 0.20 | | Town-owned/Town-maintained | Paved |
| Fellows Drive | | | 0.14 | | Private | Gravel |
| French's Point Road | | | | 0.30 | Public Easement/Town-maintained | Dirt |
| Grace Snow Drive | | | 0.27 | | Town-owned/Town-maintained | Paved |
| Grand View Acres | | | 0.28 | | Town-owned/Town-maintained | Paved |
| Grouse Lane | | | 0.21 | | Private | Gravel |
| Hudson Road (Rte 221) | | 5.81 | | | State owned/State-maintained/Town- plowed | Paved |
| Jewell Lane | | | 0.11 | | Private | Gravel |
| Jillian Way | | | | 0.61 | Public Easement Road | Paved |
| Kelley Road | | | 0.98 | | Town-owned/Town-maintained | Paved |
| Lakeside Landing Road | | | | 0.58 | Public Easement/Town-maintained | Dirt |
| Lakeview Road | | | 1.79 | | Town-owned/Town-maintained | Paved |
| Lancaster Lane | | | 0.11 | | Town-owned/Town-maintained | Paved |
| Lancaster Brook Road | | | 1.82 | | Town-owned/Town-maintained | Paved |
| Largay Lane | | | 0.13 | | Town-owned/Town-maintained | Paved |
| Leavitt Lane | | | 0.30 | | Town-owned/Town-maintained | Paved |
| Ledgewood Drive | | | 0.16 | | Town-owned/Town-maintained | Paved |
| Lorna Lane | | | 0.33 | | Private | Paved |

Section I

**Inventory and Analysis:
Transportation**

| ROADWAY INVENTORY Town of Glenburn | | | | | | |
|---------------------------------------|--|------|------|------|---------------------------------------|-----------|
| Lower Cross Road | | | 1.28 | | Town Way/ Discontinued to Maintenance | Gravel |
| Luckey's Landing Road | | | | 0.79 | Public Easement/Town-maintained | Pav./Dirt |
| Lyndsay Lane | | | 0.29 | | Town-owned/Town-maintained | Paved |
| Marston Meadow Road | | | 0.95 | | Town-owned/Town-maintained | Paved |
| McCarty Road | | | 0.85 | | Town-owned/Town-maintained | Paved |
| McClellan Drive | | | 0.26 | | Town-owned/Town-maintained | Paved |
| Merryman Road | | | 0.79 | | Town-owned/Town-maintained | Paved |
| Midway Lane | | | 0.08 | | Private | Gravel |
| Misty Way | | | 0.45 | | Town-owned/Town-maintained | Paved |
| Norway Road | | | 0.39 | | Town-owned/Town-maintained | Paved |
| Ohio Street | | | 1.42 | | Town-owned/Town-maintained | Paved |
| Orono Road | | 0.83 | | | State-owned/Town-Plowed | Paved |
| Oxbow Drive | | | 0.31 | | Town-owned/Town-maintained | Paved |
| Phillips Road | | | 1.93 | | Town-owned/Town-maintained | Paved |
| Pinehill Drive | | | 0.56 | | Town-owned/Town-maintained | Paved |
| Pine Acres Way | | | 0.20 | | Private | Dirt |
| Pine Grove Avenue | | | 0.24 | | Town-owned/Town-maintained | Paved |
| Pineview Avenue | | | 0.14 | | Town-owned/Town-maintained | Paved |
| Pinkham Road | | | 0.49 | | Private | Dirt |
| Pleasant Road | | | 0.2 | | Town-owned/Town-maintained | Paved |
| Poplar Road | | | 0.13 | | Town-owned/Town-maintained | Paved |
| Pushaw Road | | 5.97 | | | State-owned/Town-plowed | Paved |
| Richard's Road | | | 0.23 | | Town-owned/Town-maintained | Paved |
| Roundstone Drive | | | 0.31 | | Town-owned/Town-maintained | Paved |
| Sandy Beach Shore Road | | | 0.24 | | Town-owned/Town-maintained | Dirt |
| Sandy Beach Road | | | | 0.78 | Public Easement/Town-maintained | Pav/Dirt |
| Skidgel Road | | | 0.14 | | Private | Gravel |
| Sparkle Pond Road | | | 0.86 | | Private | Dirt |
| Sunset Avenue | | | 0.42 | | Town-owned/Town-maintained | Paved |
| Turner Road | | | 0.89 | | Private | Gravel |
| Union Street (Rte 222) | | 0.73 | | | State-owned/Town-Plowed | Paved |
| Victory Lane | | | 0.57 | | Private | Dirt |

| ROADWAY INVENTORY Town of Glenburn | | | | | | |
|---------------------------------------|------|-------|-------|------|----------------------------|--------|
| Vista Lane | | | 0.06 | | Town-owned/Town-maintained | Paved |
| Vista Ridge | | | 0.27 | | Town-owned/Town-maintained | Paved |
| Vistaway | | | 0.26 | | Town-owned/Town-maintained | Paved |
| Winters Way | | | 0.35 | | Private | Gravel |
| Totals | 2.46 | 13.34 | 26.36 | 6.21 | | |

TRAFFIC VOLUMES AND PATTERNS

Many factors influence traffic count results. When traffic volumes are counted over long periods of time, the annual average daily traffic volume (AADT) can be determined. The AADT is the total annual traffic volume divided by the number of days in the year. These average daily figures do not reflect peak traffic volume. Traffic counts are meant to help understand the overall patterns of vehicular movement.

Transportation linkages in Glenburn consist primarily of Routes 15, 221, and 222. Table 2 as well as Map 11 shows AADT counts for these three roads in 1993. Route 222, also known as Union Street, travels in a southeast/northwest direction connecting the Towns of Hermon and Levant. A daily average of 3,340 vehicles travel on Union Street, between the Merriman Road to the Hermon/Glenburn Town line. Route 15 runs in a south-southeast/north-northwest direction connecting Bangor to Kenduskeag and constitutes the most travelled thoroughfare through Glenburn. An average of 6,470 vehicles travel the stretch of Route 15 lying from the Bangor/Glenburn Town line to the McCarthy Road. Route 221, often referred to as the Hudson Road, runs in a north/south direction from Bangor to Hudson. As you move away from the Bangor/Glenburn Town line, the number of vehicles travelling that road diminishes. For example, a daily average of 2,090 vehicles travel the stretch from Roundstone Drive to the Bangor/Glenburn Town line compared to 1,570 north of the Pushaw Lake junction.

Table 2

| TRAFFIC FLOW Town of Glenburn | | |
|----------------------------------|---|-----------|
| Location | Description | 1993 AADT |
| Union Street (Route 222) | South of Merriman Road | 3440 |
| Route 15 | South of McCarthy Road | 6470 |
| Hudson Road (Route 221) | South of Roundstone Drive | 2090 |
| | Between Lakeview Road and Roundstone Drive | 1860 |
| | Between Lakeview Road and Marston Meadow Road | 1570 |
| | North of Pushaw Road junction | 1570 |

Source: Maine Department of Transportation

ROAD MAINTENANCE

Overall, Glenburn's roadways are in good condition. The Town has done a remarkable job of maintaining its roads. Clark Road, which is a dirt road servicing three households, is the only road in fair condition. As many dirt roads, Clark Road's main problem coincide with spring thaw. Although muddy and slippery, the road is passable. It is the intent of Glenburn to upgrade and eventually pave the Town's eight public easements around Pushaw Lake consisting of Cedar Breeze Center, Cedar Breeze North, Cedar Breeze South, French's Point Road, Lakeside Landing Road, Luckey's Landing Road, Sandy Beach Road, and Beechwood Road over the period of this plan. These camp roads have been divided into 19 segments and prioritized according to the needs. The intent is to ensure appropriate vehicular traffic on these "camp roads."

The Town of Glenburn contracts for summer and winter road maintenance. The State plows Broadway. Per written agreement, half of the Kelly road is plowed by the Town of Hermon and the other half by Glenburn. Winter maintenace on the Clark Road is Glenburn's responsibility, summer maintenance is Levant's responsibility, and major work is a joint responsibility.

REGIONAL TRANSPORTATION ADVISORY COMMITTEE

The Regional Transportation Advisory Committee (RTAC) process created by DOT, facilitates public participation during the formulation of transportation policy. RTACs are advisory committees consisting of citizens representing environmental, business, municipal, planning, and alternative forms of transportation, as well as members of the general public. The purpose of the RTAC is to provide early and effective input into DOT's plans and programs. The RTAC process is an effort to de-centralize transportation planning and give the general public an opportunity to help shape transportation policy and the decision making process.

The RTAC's, in collaboration with DOT and Regional Planning Commissions, develop regional advisory reports for each RTAC Region. The Town of Glenburn is part of RTAC-Region 3, which encompasses Penobscot and Piscataquis County. The advisory report outlines each RTAC's objectives, goals, and strategies for improving transportation systems in their respective regions and the State. The RTAC's meet regularly and advise the DOT on a number of issues including advisory report strategies, updating of the advisory reports, and the Biennial Transportation Improvement Program (BTIP). Glenburn can insure a greater degree of involvement in the RTAC process by coming to RTAC meetings and stating why their projects should receive funding priority.

BIENNIAL TRANSPORTATION IMPROVEMENT PROGRAM

The Biennial Transportation Improvement Program (BTIP) is DOT's programming document that defines potential projects for the next two years. Municipalities can suggest

projects to be included in the BTIP for potential funding. Due to a continuing shortfall of funds however, some of the projects listed on the BTIP will not be funded (or completed) until the following BTIP (two years later).

As described in the BTIP, the intersection of the Orono Road and Pushaw Road, extending 0.09 of a mile easterly will be improved during FY 1998-99.

DANGEROUS INTERSECTIONS AND STRETCHES OF ROADS

The DOT rates accidents according to a Critical Rate Factor (CRF) which corresponds to the number of times the actual accident rate exceeds the expected accident rate. Generally, a CRF of 1.0 or more indicates a higher than usual number of accidents at that specific intersection or stretch of road. According to the MDOT's most recent data, Glenburn has no such area.

Although not bearing any CRF at this time, several areas within the Town of Glenburn are qualified by the residents as potentially dangerous. Speeding problems are found particularly on Pushaw, Hudson, and Beechwood Roads. Configuration problems exist on the first 100 feet of the Hudson Road from the Bangor/Glenburn line; Pushaw Road, south of the Old County and north of Pleasant Roads; Beechwood Road, just over the Glenburn line; and in West Glenburn approximately 300 feet on the Kelly Road coming from Ohio Street. Lakeview Road, between the Town Office and Hudson Road, seems to be overcrowded. Also, there are some safety issues regarding school children crossing the Hudson Road.

TRAFFIC CONTROL DEVICES

The Town feels that the 15 miles per hour speeding sign that has been posted to slow traffic down on the Hudson Road, when school children are present, is insufficient. The Town would like DOT to install a blinking yellow warning light and crosswalks, to be used in conjunction with crossing guards.

BRIDGE INVENTORY

The Lancaster Brook Bridge, located over the Lancaster Brook, was established approximately in 1900. In 1983, it was surfaced. The bridge is a structural plate pipe arch in fair and serviceable condition. MDOT's 1996 bridge report states that the culvert has heavy rust nodules and is pitting, but not distorted. MDOT's last traffic count, in 1994, indicate an AADT of 376 vehicles of which 7 percent are trucks.

Although Mud Pond Bridge is not located in Glenburn, it is a vital link for Glenburn residents living on the east shore of Pushaw Lake. The bridge is often underwater during the spring thaw. Both the deck and superstructure of the bridge are wood and aging.

RAILROAD FACILITIES

The Bangor and Aroostook Railroad has a line running parallel to Route 221 from Bangor to Hudson.

PEDESTRIAN FACILITIES

Presently, there are no sidewalks in Glenburn. To improve Glenburn's children safety, the need for sidewalks along Hudson Road, in the vicinity of the school, will be studied further.

PUBLIC TRANSPORTATION

Public Transportation is provided throughout Penobscot and Piscataquis Counties by Penquis CAP which administers two services: one for social service recipients and another for the general public. Social service transportation is funded by State agencies and caters to nursing homes, handicapped and low income people. If a person receiving Medicaid is traveling to a medical appointment, no fee is charged for the transportation. The general public service is a door-to-door service provided at a minimal fee to the general public. Transportation is by van and follows a set schedule. As of July 1997, the Town of Glenburn is serviced on Mondays between 7:00 AM and 3:00 PM. This run is the continuation of the run originating in Dover-Foxcroft. Users of this service are mostly families living below poverty level, people with mobility limitation, people with one or no available vehicles, and the elderly.

RAIL

There have been some efforts to bring rail passenger service back into the area (Bangor-Acadia). Hermon has also been studying the possibilities of having an intermodal facility.

ACCESS MANAGEMENT

Access management is the careful planning of land uses, driveways and intersections to help reduce accidents and prolong the useful life of an arterial. Access management is a tool to improve the flow of people, goods, and services. To maintain and improve traffic flows through the Town of Glenburn the Land Use section of this plan and the future Land Use Ordinance of the Town of Glenburn should include access management performance standards.

PLANNING PERSPECTIVE

There are 2.46 miles of arterial, 13.34 miles of collector and 26.36 miles of local roads, as well as 6.21 miles of public easement roadways within the Town of Glenburn. Transportation linkages in Glenburn consist primarily of Routes 15, 221, and 222. Route 15

runs in a south-southeast/north-northwest direction connecting Bangor to Kenduskeag and constitutes the most traveled thoroughfare through Glenburn. Overall, Glenburn's roadways are in good condition. The Town has done a remarkable job of maintaining its roads. Several areas within the Town of Glenburn are qualified by the residents as potentially dangerous. There are some safety issues regarding school children crossing the Hudson Road. The Town feels that the 15 miles per hour speeding sign that has been posted to slow traffic down on the Hudson Road, when school children are present, is insufficient. To improve Glenburn's children safety, the need for sidewalks along Hudson Road, in the vicinity of the school, will be studied further. The Bangor and Aroostook Railroad has a line running parallel to Route 221 from Bangor to Hudson.

The Town of Glenburn is reliant on its road network as the primary means of transportation movement. The major roads in town are state highways which are maintained and improved by the state. There are no serious problems with Glenburn's road. The town has a paving schedule for roads which are currently unpaved and requires all new roads to be constructed to specific municipal standards.

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J. PUBLIC FACILITIES AND SERVICES

INTRODUCTION

Municipal facilities and services are provided by local government. Their purpose is to protect public health, safety and welfare and enhance the well being of residents of the community. Services and facilities; their availability, quality, and adequacy, are a reflection of the community in so far as it contributes to the Town's desirability as a place to live and work or establish an industry or business.

Reviewing Glenburn's facilities and services is also the first step toward creating a capital improvement program. As shrinking municipal revenues place increased pressures on a Town's budget, planning future investment in capital items is extremely important.

Glenburn does not have as extensive municipally owned facilities as more urban communities. Lack of municipal sewer and water both contribute to maintaining a more rural character, as well as limiting certain types of business development. However, there are certain other facilities which Glenburn owns and operates which are valuable assets to the community.

The goal of this section is to plan for, finance, and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development. The facilities discussed in this section are shown on Map 11.

PURPOSE

The purpose of this section is to:

1. Identify and profile the Town's public facility and service system in terms of their extent, capability, and use;
2. Assess the adequacy of those systems in handling current use demands;
3. Predict whether public facility or service improvements will be needed to adequately accommodate the use demands of the projected population in the next ten years; and
4. Assess the general costs of providing the needed public facility and service system improvements.

BACKGROUND INFORMATION

Survey responders were asked to rate the adequacy of Glenburn's public facilities and services. Responders viewed the following services as good or adequate: schools (73%), fire protection (69%), police protection (63%), cemeteries (63%), local government (56%), ambulance (70%), library (58%), and solid waste management (92%).

MUNICIPAL ADMINISTRATION

The Town of Glenburn is part of the Senate District #007, Congressional District #2, and House District #122. The Town of Glenburn has a Council/Town Meeting/Town Manager form of government. The Town's fiscal year ends on June 30 of each year and the Town's Annual Meeting is held on the second Tuesday of June. The Glenburn Municipal building, located on Lakeview Road, houses the offices of the town manager, code enforcement officer/local plumbing inspector, the assessor, as well as the reception's three clerks.

In 1987, the old roof of the building was removed and new insulation was installed. In 1992, part of the exterior walls were insulated and new siding and windows were installed. Presently, the building layout is poor and more space is needed for storage of municipal records. The next project is to construct an addition on the south-west side of the building. This would result in an improvement in the reception area, small office space for general assistance, animal control and deputy sheriff offices, and a large new fire-proof vault. This expansion, needed as soon as possible, is anticipated to cost approximately \$40,000. As of FY 97-98, \$7,500 had been appropriated for this purpose, the \$32,500 remaining will probably be raised at the 1998-1999 Annual Town Meeting.

BOARDS AND COMMITTEES

- Town Council
- School Committee
- Planning Board
- Board of Appeals
- Cemetery Committee
- Recreation Committee
- Local Access Channel Committee – ad hoc
- Community Development Block Grant Advisory Committee – ad hoc
- Recycling Committee – ad hoc

AUDITORIUMS

The *Glenburn Municipal Building* has a meeting room including kitchen facilities, with a legal capacity of about 133 people, is located on the Lakeview Road. The room is available at no cost to civic organizations and can be rented by residents for private functions. Overall, the room is adequate and meets the needs of Glenburn residents. Town related meetings can be video-taped and broadcast live through a community access cable channel. The acoustic component of the system needs upgrading. Wireless microphones and receivers will be needed. This improvement is estimated to cost \$4,000.

Furthermore, the *Glenburn Elementary School*, located on the Hudson Road, is used for civic purposes. The room has a kitchen, video-taping capabilities, and is in good condition.

The newly constructed Glenburn *Public Safety Building* located next to the Municipal Building on Lakeview Road also has a public meeting room, with a maximum capacity of 89 for public functions. The room is constantly used. Amenities include kitchen, bathroom with showers, and a large projection television.

The future *West Glenburn Recreational Facility* is projected to be constructed, on the Ohio Street town-owned land, within the next ten years. It is probable that the facility will be annexed to the future Fire Department sub-station. The physical layout of the Town of Glenburn, in conjunction with the population trend, are the leading factors for this new sub-station/community center facility. The approximate cost of the project is \$150,000.

LIBRARY

In 1992, the Glenburn Library was annexed to the Glenburn Elementary School located on the Hudson Road. The library services school children and Townspeople alike. It is open when school is in session, as well as two evenings per week. Staff includes one full-time librarian assisted by three volunteers. The library would like to become a repository for Town-related documents. Town-related notices are already posted at the library and minutes are available. The library has five computers, two of which have Internet access. The library has access to URSUS which includes the holdings of all University of Maine libraries, in addition to the holdings of the Maine State Library in Augusta, and other large libraries such as Bangor and Portland, as well as Maine CAT - the Union Catalog of Maine Library Holdings. Inter-library loans are accomplished through e-mail.

SCHOOL

The Glenburn Elementary School is located on the Hudson Road and is in overall good condition. In 1997, the Town of Glenburn put in a petition to the State to dissolve Union #34 so that the Town could obtain its own superintendent, instead of sharing with Hermon. The Deputy Commissioner of Education granted Glenburn's request, effective July 1, 1998. Glenburn now has a municipal school.

The school has approximately 22 classes, servicing grades K-8. Although additions were built in 1982, and 1991, two portable classrooms were required for 1998-1999. The Town filed an application with the State to help in the construction of a middle school (grades 6, 7, and 8). The plan is to build a new school on the 19 acres of land, adjacent to the elementary school, recently purchase by the Town. The Town anticipates the new middle school project to be accepted by the State for funding by the year 2010.

Over the last year, Glenburn Elementary School has been working at increasing the school's air quality. The school identified the sources of the problem as mold in the carpeting, air exchange problems, asbestos tiles, and drainage problems around the structure. Recently, all carpets and most tiles were removed. Remaining work includes the drainage work and the

installation of the new air exchange system, in the school's middle addition. The Town is hopeful to raise the needed \$60,000 at the 1998-1999 Annual Town Meeting to complete the work.

Glenburn does not have its own high school. Students have the choice of attending the high school of their choice with the Town paying tuition. Currently students are bussed to Bangor High, Orono High, Hermon High, and John Bapst. Students attending other schools must have their own transportation arrangements. Furthermore, Glenburn sends students to vocational classes available to junior and senior high school students.

Many residents view the choice of high schools as a major advantage to living in Glenburn. Cost analysis has demonstrated that tuitioning Glenburn high school students to other facilities is less expensive than owning and administering a local high school facility. Overall, the community views schools to be adequate.

PUBLIC WORKS

Glenburn does not have a Public Works Department nor do they own any municipal equipment with the exception a pickup truck and sand and salt storage shed (built consistent with DEP requirements). The Town contracts out for both winter and summer road maintenance and has no plan to change this practice within the next ten years.

POLICE

Glenburn contracts with the Penobscot County Sheriff's Department for police services. This includes one full time deputy and one part-time on-call deputy. Glenburn owns a 1992 police cruiser and support equipment. Overall police services are adequate. Within the next ten years, Glenburn is planning to keep services leveled with need and population growth.

Furthermore, Glenburn has access to the Maine State Police who collaborates with the Sheriff's Department for services to Glenburn. The Town of Glenburn also has access to other state support such as the Warden Service. The community appears to be satisfied with the level of police services.

FIRE DEPARTMENT

The Fire Department is housed in the Glenburn Public Safety Building situated on the Lakeview Road next to the municipal building. The building, built in 1995, has five bays. One of the bays is used by the ambulance while the other four are used for the fire trucks. Glenburn also has a one-bay sub-station at the Glenburn Community Club on the Phillips Road. The Town has 19 volunteer firefighters including one chief, one assistant-chief, one captain, and five lieutenants. The Town has a Mutual Aid Agreement with Bangor, Orono, Kenduskeag, Hermon, Levant, Bradford, Corinth, and Hudson, and the Penobscot County Hazardous Materials Team. The Department uses the Mobile Cascade System to fill out the firemen's air

tanks. The Fire Department's equipment is adequate and encompasses a 1981 pumper truck, a 1987 brush truck (300 gallons), a 1988 pumper-tanker truck (2,500 gallons), and a 1994 pumper-tanker truck (2,500 gallons). The department anticipates replacing the 1981 pumper truck within the next five to seven years at an approximated cost of \$150,000. The Department draws its water from dry hydrants located at Sparkle Pond (Estate of Harry Cookson), James Murphy, Herb Rowe, and Lancaster Brook Road. Within the next ten years, the department is planning to install dry hydrants on Ohio Street, Broadway, and Beechwood Avenue.

As a volunteer Fire Department, Glenburn faces a challenge that many rural communities face when the workforce predominantly is employed out of Town, that is, adequate coverage during the day time hours. While the opinion survey results indicate a high level of satisfaction with services, there remains the possible problem of staffing the Fire Department during this period. As development increases there is a concern over providing adequate coverage without expanding the department at Town expense. With development occurring farther away from the fire stations, the problem of finding sufficient water supplies for the tanker trucks increases. There is a need to establish more dry hydrants, as well as establishing additional fire ponds and other water sources.

AMBULANCE

The ambulance is housed at the Glenburn Public Safety Building on the Lakeview Road. The ambulance service is not a municipal service, it is an incorporated ambulance service (G.&H. Ambulance Service Inc.). The service is staffed by licensed emergency medical technician volunteers from the Towns of Glenburn and Hudson, and other communities, although service is only available to Glenburn and Hudson. Dispatching is done from the Penobscot County Sheriff's Department. In 1992, the service purchased a fully equipped 1991 ambulance, three-quarters of which was paid by Glenburn and one-quarter by Hudson.

Ambulance services also face the same problem of available daytime volunteers as does the Fire Department. The interlocal agreement between adjacent communities assists in providing the needed manpower. The ambulance service also experiences a high level of satisfaction and support from the community.

CEMETERIES

There are three cemeteries located within the Town of Glenburn: the Lakeview Road, the Merriman Road, and the Kelley Road Cemeteries. In the early 1980's, Glenburn purchase 4.1 acres of additional land next to the Lakeview Road Cemetery. There is some available space remaining at the Merriman Road Cemetery, while the Kelly Road Cemetery is close to maximum capacity. The Town contracts for maintenance services. In addition, the Town has several small private cemeteries. There appears to be adequate cemetery space for the foreseeable future. Cemeteries are perceived as providing a high level of service to residents of Glenburn. (See Section C)

SOLID WASTE MANAGEMENT

The State of Maine Solid Waste Landfill Remediation and Closure Program, established in 1987, required that all unsuitable landfills be closed. The Town of Glenburn was required by the DEP to close its landfill. In 1991, Glenburn formally close the 2-acre landfill at cost of \$140,468.

Glenburn provides weekly solid waste curbside pick-up services through a contractor. The waste is shipped to the Penobscot Energy Recovery Company (PERC) incinerator in Orrington. Glenburn currently has a charter waste disposal agreement with the PERC facility. Glenburn currently has a contract with Soil Preparation Inc. to use their facility in Plymouth to dispose of septage, the Town pays a fee on behalf of the residents.

The Town has a monthly curb side pick-up service for recyclables. Glenburn has a DEP licensed disposal facility, on the Hudson Road, where residents can dispose of metal, demolition debris, clean wood and brush, and tires. All white goods, including those that contain freon, can be disposed of for a fee, by residents, at Industrial Metals in Bangor. Bins are provided to residents. Beechwood Avenue residents bring their recyclables at a centralized location, situated in the neighborhood. The Town also has a very active home-composting program which is in its third year. The Town provides training and books and offers the first composting bin at the reduced price of \$10 (compare to resale price of \$100).

AIR QUALITY IN PUBLIC BUILDINGS

Air quality in public buildings is adequate. Some problems have been experienced in the school, but they are being resolved.

PLANNING PERSPECTIVE

The Town of Glenburn has many programs and facilities available to its residents which contributes to its desirability as a place to live. Respondents to the public opinion survey continue to give a high rating to most facilities and services. This correlates with the high value placed by survey respondents on the "quality of life" in Glenburn.

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K. FISCAL CAPACITY¹**INTRODUCTION**

Municipal finances are the most important responsibility facing Glenburn Town Officials who must deal with immediate and, often unexpected, expenses concurrently with long-term planning. As is the case with any business, the physical assets of Glenburn must be maintained and supported with enough capital to protect the Town's continued economic health.

The goal of the Fiscal Capacity section is to plan for, finance, and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development.

PURPOSE

The purpose of this section is to:

1. Identify and understand Glenburn's financial condition;
2. Identify and understand recent changes in Glenburn's fiscal condition and how these changes may affect Glenburn's future fiscal conditions, and;
3. Assess the Town's capacity to finance future capital expenditures.

VALUATIONS

The primary method of generating revenue within the Town is through property taxes. These taxes are assessed on local property owners according to the value of their real estate and personal property. This assessment is known as the municipal valuation and is determined by the local tax assessor. According to the State of Maine Municipal Valuation return Statistical Summary, Glenburn's total real and personal property valuation was \$86,379,735 in 1992 and \$102,962,450 in 1996, representing a 19 percent rise over a five year period.

MIL RATE

After valuation, the taxpayers are assessed their share of the tax burden through an assessment ratio determined by dividing the total tax commitment into the total tax valuation of the Town. This assessment is usually expressed in dollars per thousand-dollar valuation, or in decimal form. Glenburn's mil rate has been steadily increasing since FY 1992-1993. Presently, in FY 1997-1998, the mil rate is \$16.5 per thousand dollars of valuation.

¹ Dollars have not been adjusted for inflation.

The mil rate fluctuates with both the total valuation and the total tax commitment. The valuation, however, does not take inflation into account as properties are reassessed only periodically.

Table 1

| MIL RATE | |
|-------------|----------|
| Fiscal Year | Mil Rate |
| 92-93 | 13.40 |
| 93-94 | 13.90 |
| 94-95 | 15.00 |
| 95-96 | 16.00 |
| 96-97 | 16.30 |
| 97-98 | 16.50 |

Source: Town of Glenburn

PAST REVENUES AND EXPENDITURES

Revenues

Table 2 and Charts 1 and 2 illustrate revenues as they have been in the past. Revenues increased over the five year period presented. The proportions of their sources remained generally the same, except for the large increase in charges for services. Investment income also increased greatly, but its proportion of the whole remained the same.

Table 2

| | FY 92-93 | FY96-97 | Percentage of FY 92-93 | Percentage of FY 96-97 | Percentage Change |
|----------------------------------|-------------|-------------|---------------------------|---------------------------|----------------------|
| Taxes | \$1,422,615 | \$1,993,010 | 34% | 40% | 40% |
| Fines and fees | \$13,306 | \$17,242 | <1% | <1% | 30% |
| Intergovernmental Revenue | \$2,676,633 | \$2,773,115 | 63% | 56% | 4% |
| Charges for Services | \$1,700 | \$32,726 | <1% | 1% | 1825% |
| Investment Income | \$66,970 | \$100,956 | 2% | 2% | 51% |
| Other Revenue | \$38,341 | \$34,440 | 1% | 1% | -10% |
| Total | \$4,219,565 | \$4,951,489 | 100% | 100% | |

Source: Glenburn Annual Town Reports

Chart 1

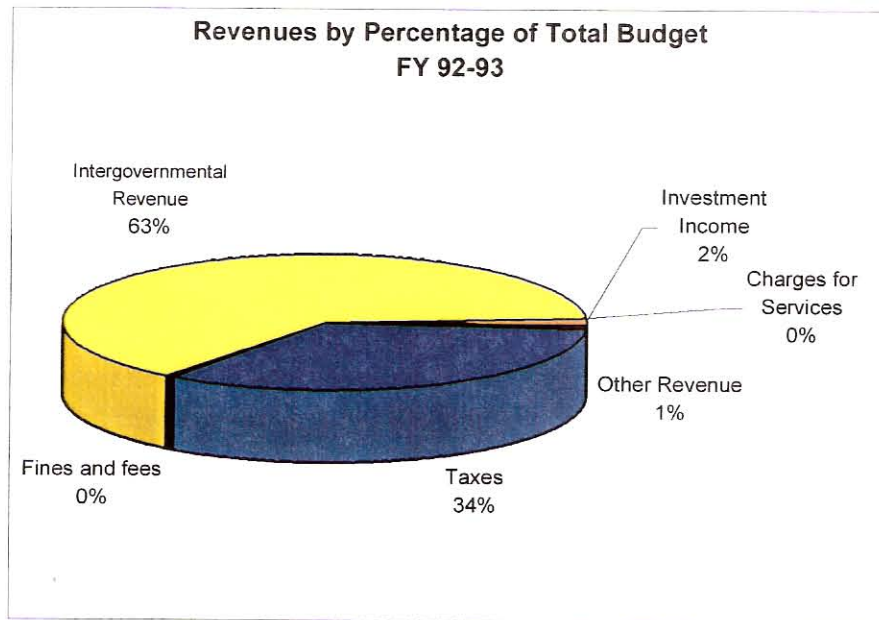
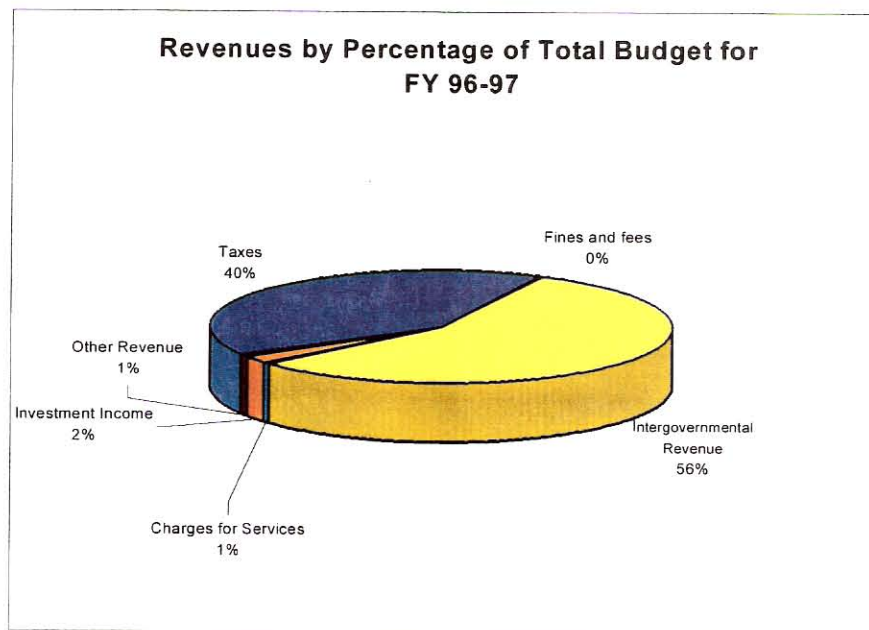


Chart 2



Expenditures

Table 3 and Charts 3 and 4 represent expenditures in the same manner in which past revenues were presented. Expenditures also increased over the five year period, as would be expected. Once again the proportions remained almost exactly the same, but there were some significant increases in the actual expenditures in health and welfare and debt service, although their proportions of the whole remained constant.

Table 3

| | FY 92-93 | FY 96-97 | Percentage of FY 92-93 | Percentage of FY 96-97 | Percentage Change |
|------------------------|-------------|-------------|---------------------------|---------------------------|----------------------|
| General Government | \$165,461 | \$194,101 | 4% | 4% | 17% |
| Public safety | \$68,404 | \$93,777 | 2% | 2% | 37% |
| Highways and streets | \$223,182 | \$238,355 | 5% | 5% | 7% |
| Sanitation | \$115,828 | \$159,880 | 3% | 3% | 38% |
| Health and Welfare | \$6,624 | \$13,452 | <1% | <1% | 103% |
| Culture and Recreation | \$26,782 | \$28,801 | <1% | <1% | 8% |
| Debt service | \$30,006 | \$74,176 | <1% | 2% | 147% |
| Capital Outlay | \$378,560 | \$342,859 | 9% | 7% | -9% |
| Education | \$3,260,643 | \$3,619,077 | 74% | 73% | 11% |
| Other | \$95,871 | \$78,460 | 2% | 2% | -18% |
| Special Assessment | \$63,632 | \$85,350 | 1% | 2% | 34% |
| Total expenditures | \$4,434,993 | \$4,928,288 | 100% | 100% | |

Source: Glenburn Annual Town Report

Chart 3

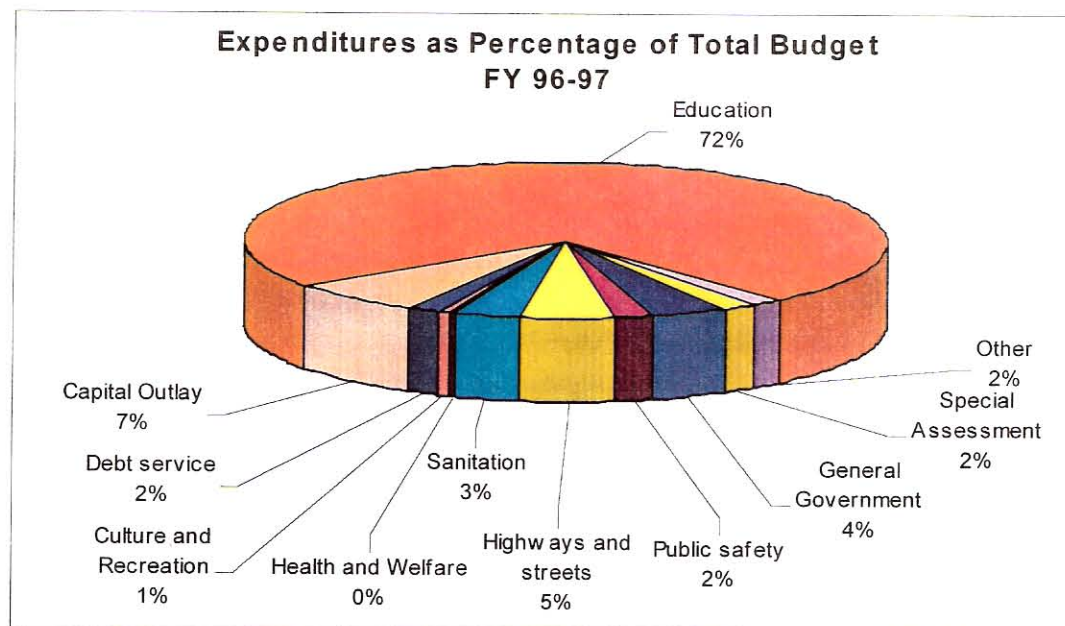
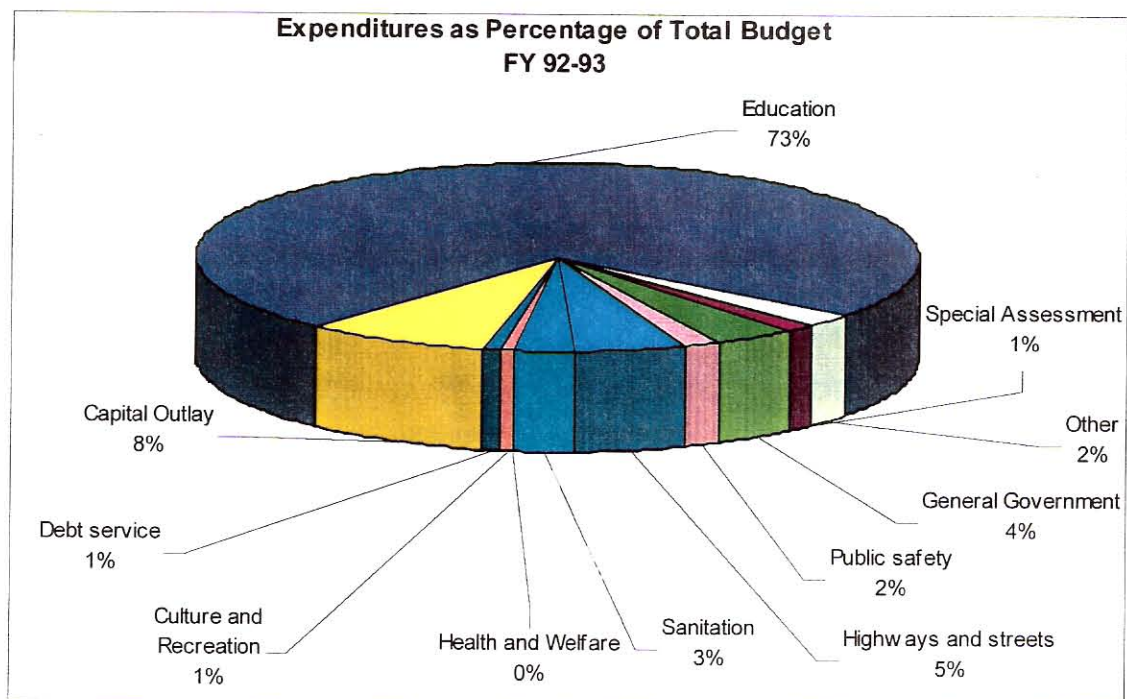


Chart 4



FUTURE REVENUES AND EXPENDITURES

To help identify how much Glenburn can afford in capital improvements, an attempt was made to forecast the Town's financial resources using linear regression lines. Table 4 shows that in the past five years, Glenburn's annual average increase in revenue was higher than its expenditures, with 3 and 2.8 percent respectively; while the annual average population increase was 4.7 percent. During this period, per capita revenues and expenditures have been decreasing.

Table 4

| Description | % Annual Change | 1992-1993 | 1993-1994 | 1994-1995 | 1995-1996 | 1996-1997 |
|-------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|
| Total Revenues | 3.0% | \$4,136,840 | \$4,202,650 | \$4,406,753 | \$4,661,006 | \$4,637,823 |
| Total Expenditures | 2.8% | \$4,129,354 | \$4,214,822 | \$4,651,886 | \$4,603,512 | \$4,585,429 |
| Population | 4.7% | 3475 | 3611 | 3765 | 4017 | 4165 |
| Per Capita Revenues | -6.6% | \$1,190 | \$1,164 | \$1,170 | \$1,160 | \$1,114 |
| Per Capita Expenditures | -1.8% | \$1,188 | \$1,167 | \$1,236 | \$1,146 | \$1,101 |

Source: Glenburn Annual Town Reports

In 1998 Glenburn's maximum debt limit was \$15,862,500. The existing debt (\$475,384) represents 3 percent of the total limit. Municipal borrowing of up to 5 percent of total State valuation is considered financially sound by lending institutions; thus the Town is in good financial condition.

Per State law, Glenburn cannot incur debt which would cause its total outstanding debt, at any time, exclusive of school purposes, to exceed 7.5 percent of its last full State valuation. The Town's debt for school purposes should not at any time exceed 10 percent of its last full State valuation. The total debt should not exceed 15 percent of the last full State valuation at 100 percent.

Table 5 shows the Town's total debt limit (including school) from 1992 through 1998.

Table 5

| Year | Full State Valuation | Max. Debt (15%) | Financially Sound Debt (5%) |
|------|----------------------|-----------------|-----------------------------|
| 1992 | \$77,600,000 | \$11,640,000 | \$3,880,000 |
| 1993 | \$86,100,000 | \$12,915,000 | \$4,305,000 |
| 1994 | \$89,050,000 | \$13,357,500 | \$4,452,500 |
| 1995 | \$94,450,000 | \$14,167,500 | \$4,722,500 |
| 1996 | \$96,550,000 | \$14,482,500 | \$4,827,500 |
| 1997 | \$102,600,000 | \$15,390,000 | \$5,130,000 |
| 1998 | \$105,750,000 | \$15,862,500 | \$5,287,500 |

Source: State of Maine Municipal Valuation Return Statistical Summary

Table 6 shows capital fund surplus, appropriations, expenditures, and adjusted capital budget. From FY 1992-1993 to FY 1996-1997, the figures show a yearly surplus; a significant variation in annual appropriation and in the adjusted capital budget; and a decrease in average annual expenditures. Thus, in FY 1996-1997, the adjusted capital budget was \$104,552, which is respectable for a Town of this size.

Table 6

| Capital Fund | % Annual Change | 1992-1993 | 1993-1994 | 1994-1995 | 1995-1996 | 1996-1997 |
|-------------------------|-----------------|-----------|-----------|-----------|-----------|-----------|
| Surplus | -29% | \$286,449 | \$225,449 | \$154,243 | \$114,383 | \$71,675 |
| Appropriations | 48% | \$80,500 | \$105,300 | \$70,800 | \$23,300 | \$84,051 |
| Expenditures | -17% | \$143,938 | \$176,506 | \$158,515 | \$69,466 | \$51,174 |
| Adjusted Capital Budget | -8% | \$223,011 | \$154,244 | \$66,528 | \$68,217 | \$104,552 |

Source: Town of Glenburn

It is anticipated that in FY 2001-2002 Glenburn's revenues and expenditures will be about equal, approximately \$5,300,000. The per capita revenue or expenditure would be \$1,060, which is lower than the present figure. When using population projections, from Chart 1, Section D – Inventory and Analysis: Population, suggesting that the 2002 population would be about 5,000 people in Glenburn. The valuation is projected to be about \$130,000,000 and the mil rate around \$19 per thousand dollars of valuation. The Town's maximum debt limit will be approximately \$18,500,000, notwithstanding special circumstances, such as the purchase of a significant piece of equipment at a good price, or the opportunity to take advantage of a matching program, which would save money in the long run. Irrespective of special situations, the 5 percent rule of thumb should still be adhered to, therefore the debt should be \$6,166,666 or less.

PLANNING PERSPECTIVE

Overall the Town of Glenburn is in good financial condition. Although the Town does not have a Capital Improvement Plan, it has a wide range of special, maintenance, and upgrade accounts.

Similar or tougher economic times are anticipated in the next five years if present economic trends persist. The mil rate will keep increasing while less money would be spent per capita. Hopefully, the Town will be able to maintain a yearly surplus.

L. LAND USE

INTRODUCTION

To assess future requirements for various land uses, an inventory of existing land uses and its potential for development needs to be accomplished. The goal of this section is to identify Glenburn's existing land use patterns.

PURPOSE

The purpose of this section is to:

Identify and understand the uses of land throughout Glenburn in terms of amounts and locations of land generally devoted to various land uses.

EXISTING LAND USES

Existing land use patterns were identified using the Town's Composite Tax Map (Map 13), information gathered in previous sections, an residents' knowledge. Glenburn's existing land use patterns were grouped into five major areas: West Glenburn, Broadway Economic Corridor, Glenburn Center, Pushaw Lake, and Rural, as shown on Map 14.

West Glenburn

The area known as West Glenburn is a rural residential community with some agricultural uses. Located within the area is the West Glenburn Community Center. Primary access is via Union and Ohio Streets. Four subdivisions have been developed in this area since 1990, all of them constructed off the main roads.

Broadway Economic Corridor

Broadway (also known as Route 15) is Glenburn's main economic corridor, as well as Eastern Maine's access to the Moosehead Lake Region. The 1993 AADT count was 6,470 vehicles. The railroad parallels a portion of this corridor. As development pressures from Bangor increase, the corridor is increasing in importance. Although not serviced by public sewer and water, it is located about one mile from Bangor's Finson Road which is serviced by public sewer and water.

Glenburn Center

As its name implies, Glenburn Center has traditionally been recognized as the center of Glenburn. Located within this area are the Glenburn Municipal Building, the Glenburn Public Safety Building, the Glenburn Elementary School, the Library, Sunny Gables (senior citizen complex), and three of the Town's mobile home parks.

Pushaw Lake

The Pushaw Lake area encompasses seasonal and year-round properties abutting or in close proximity to the lake and recreational facilities.

Rural Area

The remaining area is rural with the primary land use being residential, forestry, and agriculture. Hydric soils cover large areas in Glenburn especially in the northwest quadrant.

EXISTING LAND USE CONTROLS**Local Controls**

Listed below are Glenburn's major land use ordinances, as well as environmental and land use statutes.

Zoning Ordinance - The Glenburn Zoning Ordinance was originally adopted in 1958 and last amended in 1987. The ordinance includes two zones: the Rural Residential and Industrial Zones. The minimum lot size, throughout the Town, is one acre with 150 feet frontage and 50 feet in some circumstances. Yard requirements are: 20 foot set-back from the outer most limit of the road and 20 foot set-back from the side and rear lot lines. More than one dwelling unit may be created on a lot if such lot contains a minimum of one acre for each dwelling unit and if each dwelling unit meets all set back requirements. No structures shall be constructed with a height greater than 35 feet. The fee for building permits is based upon the estimated cost of a project. For a project costing under \$8,000 the cost of a permit is \$10, equal to or over \$8000 the permit cost is \$20.

Shoreland Zoning Ordinance - Glenburn has a locally-adopted Shoreland Zoning Ordinance. The ordinance was last amended in 1994. The ordinance regulates activities within 250 feet of great ponds, rivers, freshwater wetlands; and within 75 feet of streams. The purposes of this ordinance are to: further the maintenance of safe and healthful conditions; prevent and control water pollution; protect fish spawning grounds, aquatic life, bird and other wildlife habitat; protect buildings and lands from flooding and accelerated erosion; protect archaeological and historic resources; protect freshwater wetlands; control building sites, placement of structures and land uses; conserve shore cover, and visual, as well as actual points of access to inland waters; conserve natural beauty and open space; and anticipate and respond to the impacts of development in shoreland areas. It includes four districts: Resource Protection, General Development, Stream Protection, and Limited Residential.

Glenburn Road Ordinance - This ordinance sets specifications for the construction of roads. Language regarding road standards is also included in the Subdivision Ordinance.

Mobile Home Park Ordinance - This ordinance was enacted in 1980 and last amended in 1996. The purpose of the ordinance is to promote orderly development of mobile home parks; to insure health, safety, and general welfare of the residents of the parks; to encourage the most appropriate use of land within the Town; and to maintain and protect property values within the Town of Glenburn.

Subdivision Ordinance - This ordinance was enacted in 1994. The purpose of this ordinance is to assure the comfort, health, safety and general welfare of the people, to protect the environment, to provide for the orderly development of a sound and stable community, and to uphold the State Subdivision Law.

Floodplain Management Ordinance - The Town has elected to comply with the requirements of the National Flood Insurance Act. In 1991, the Town developed and adopted an ordinance consistent with the Act. A Flood Hazard Development Permit system and review procedure for development activities in the designated flood hazard areas of the Town was developed.

Other ordinances and codes includes: Building Code, Supplemental Plumbing Code, Traffic Ordinance, Solid Waste Ordinance, Animal Control Ordinance, Cable TV Ordinance, Public Parks Ordinances, and Road Numbering Ordinance.

State/Federal Controls

Presented below are some of the environmental and land use statutes designed to protect Maine's natural resources. The Town will encourage compliance with these statutes, as well as the use of DEP's Best Management Practices.

Natural Resource Protection Act - The Act regulates activities in streams, wetlands, and great ponds.

Forest Practices Act - The Act regulates forest harvesting in order to promote a healthy and sustainable forest that contains a balance of age classes necessary for a sustainable timber supply and spatial and compositional diversity. Landowners or their agents are required to develop forest management plans signed by a professional forester for clear-cuts of 50 acres or more. Municipalities may regulate timber harvesting so long as they use definitions consistent with the Act and follow certain prescribed procedures for adopting timber-harvesting ordinances.

Maine Endangered Species Act - The Act was enacted to conserve species of fish or wildlife that are in danger of becoming extinct in Maine. Where essential habitat and protection guidelines have been established for listed species, State agencies and municipal governments are prohibited from permitting, licensing, funding or carrying out projects that will significantly alter the essential habitat or violate protection guidelines absent a variance obtained after public hearing.

Site Location of Development Law - The Law regulates the location of certain large industrial, commercial and residential developments, including subdivisions, in order to minimize adverse impacts and avoid subjecting the environments, and in consequence the public, to irreparable damage.

AREAS UNSUITABLE FOR DEVELOPMENT

Certain areas within Glenburn warrant special consideration due to the likelihood of their degradation as the result of various land use activities. Land use activities in, on, or adjacent to floodplains, water resources, wetlands, essential and critical habitats, and unsuitable soils require more stringent regulation than in other areas, or in some circumstances, prohibition.

PLANNING PERSPECTIVE

Existing residential and commercial uses, natural resources, and transportation infrastructures are instrumental in the identification of existing land use patterns and is the basis on which the Proposed Land Use Plan is developed.

M. PROPOSED LAND USE PLAN

INTRODUCTION

The previous sections of the Comprehensive Plan are the foundation of Glenburn's proposed Land Use Plan. The proposed Land Use Plan is shaped by the goals and policies identified in each previous section. Its intentions are to manage growth and development, maintain the rural atmosphere, protect sensitive natural resources, and diversify the tax base. The proposed Land Use Plan attempts to balance the needs of the community while respecting the rights of individual property owners. It is not a zoning scheme but rather a guide for the development of future land use ordinances.

In developing Glenburn's proposed Land Use Plan, the Comprehensive Plan Committee's goal was first to ensure it would meet the people's needs and, secondly, try to meet the Comprehensive Planning and Land Use Regulation Act's requirements.

The goal of this section is to provide a basis for future land use controls by profiling existing land use regulations, recent development, and land areas unsuitable for development in Glenburn.

PURPOSE

The purpose of this section is to:

1. Guide growth;
2. Establish zoning districts for the future land use ordinance; and
3. Ensure a high quality of life for Glenburn's residents.

SELECTION CRITERIA

The Comprehensive Planning and Land Use Regulation Act requires the separation of growth and rural areas. The designation of growth areas is intended to ensure that planned growth and development is directed to areas most suitable for such growth and development and away from areas in which growth and development would be incompatible with, thus protecting rural resources. The designation of rural areas is intended to protect agricultural, forest, scenic, and open space land areas from incompatible development.

When the Comprehensive Plan Committee considered the areas most suitable for growth, as well as those areas needing protection from growth, it considered for the following elements:

1. Growth and development should be managed not to negatively impact the Town's natural resources.
2. Historic and existing development patterns and land use.
3. Glenburn does not have public sewer or water, and the Town intends to continue adopting policies that will help avoid such expenditure within the time frame of this plan.
4. Glenburn's soils are generally characterized as poorly drained.
5. Glenburn is experiencing high population growth and development pressures.
6. Existing transportation systems.
7. Desires of residents to preserve and maintain the Glenburn's character, as well as other opinions expressed in the community survey and public forums.
8. Incompatible land uses.
9. The need to provide areas for future development.
10. The importance of supporting affordable housing.
11. Consistency with the Comprehensive Planning and Land Use Regulation Act requirements.

PROPOSED LAND USE DISTRICTS

The proposed land use districts identify general areas of appropriate location and size to accommodate predicted growth and development, as shown on Map 15. The proposed land use districts do not attempt to identify precise land areas needed to accommodate predicted growth and development. In addition, this Plan does not assess the individual landowner's desire to sell their land for development, to develop it, or to leave it undeveloped.

Growth District

The Growth District is approximately 25% of the Town's total land area. The purpose of the Growth District is to establish and reinforce the "village concept" and increase the intensity of mixed-uses. Commercial, institutional, recreational, single and multi-unit residential structures, and mobile home parks will be encouraged. The village concept will be encouraged in the growth area by allowing these mixed uses on lot sizes that are smaller than those lot sizes proposed for the rural areas. The future land use ordinance will address development concerns in this district. Accessory dwellings and single-family conversions will be allowed to ensure compatible development including parking, signage, storage, and accessory use performance standards, as well as site plan review procedures.

The minimum lot size will be 1 acre per unit for the first 2 units; $\frac{3}{4}$ acre per unit for the 3rd and 4th units; and $\frac{1}{2}$ acre per unit for 5 units and more. Because of poorly drained soils, it

will be necessary for the property owner to show that the land can support two separate subsurface wastewater disposal systems each to accommodate a three-bedroom house. The purpose of the potential for two system locations is to ensure that if the first systems fails at some future date, the lot will still have the potential through the second location to install a new means of wastewater disposal. If the land cannot support two subsurface wastewater disposal systems, the minimum lot size will be 1 ¾ acre per unit.

The growth area, although it does encompass some areas in town that are already developed, is approximately 4,500 acres. This area is expected to adequately address the future needs for the town. Projections for the year 2005 indicate that there will be 573 more housing units in Glenburn than were present during the 1990 census count.

Business/Commercial District

The Business District encompasses approximately 10% of the Town's total acreage. The purpose of this district is to provide land which is accessible to transportation corridors uses municipal services, and has minimal impact on neighboring land use. Allowed uses should include commercial activities with little or no environmental impact including retail, warehousing, wholesale, and service and information businesses. Performance standards which encourage aesthetic controls; manages access, provides buffers; and protects the environment, as well as site plan review procedures; will assist in fostering a vibrant business area. Minimum lot size will be two acres.

Rural District

The Rural District, Glenburn's larger, encompasses about 65% of the Town. The purposes of this district are to maintain the rural character of Glenburn; to allow for conservation of natural resources, and to encourage natural resource based-industries. Uses within the district will include agriculture, commercial forestry, tree farms, timber harvesting, crop raising, mineral extraction, and recreation uses. Preservation of these rural areas will be achieved through lot sizes that are larger than those proposed for the growth areas. Residential development and home occupations will also be permitted. Minimum lot size will be three acres.

The minimum lot size will be 3 acres unless certain criteria can be met. Two acre lot sizes will be permitted if the owner can show that the land can support two separate subsurface wastewater disposal systems each to accommodate a three bedroom house. The purpose of the potential for two system locations is to ensure that if the first system fails at some future date, the lot will still have the potential through the second location to install a new means of wastewater disposal. Cluster development will be encouraged to reduce economic and environmental cost of growth: for every 1.5 acre of preserved rural land/open space, the developer will be allowed to built a single unit residential structure on a 1.5 acre lot.

Other Areas

Although not depicted on the proposed Land Use Map, the proposed Land Use Plan includes floodplain and shoreland zones, as illustrated on Maps 7 and 8.

GENERAL RECOMMENDATIONS FOR DEVELOPMENT OF ZONING ORDINANCE AND LAND USE PERFORMANCE STANDARDS

The following recommendations for Glenburn's Land Use Ordinance, when developed, will be consistent with the intent of this comprehensive plan. The policies are detailed below:

Several items must be considered prior to addressing specific issues for Glenburn's Land Use Ordinance. During preparation of the ordinance, land use regulations should be kept to the minimum necessary to achieve the goals of the comprehensive plan and to reduce the number of non-conforming properties. It is not the intent of the Comprehensive Planning Committee to impose burdensome requirements on the everyday activities of the town's residents or to create costly enforcement issues for town government. The ultimate goal of growth management is to regulate land use development to the extent necessary to protect natural resources, property values, and public safety. The imposed regulations should not make the town's residents feel that they have lost their freedom as landowners and, therefore, over-regulation must be avoided. In particular, land use regulations should not be so restrictive that they have negative impacts on existing land use practices.

Regarding the creation and updating of various ordinances, there are some general guidelines that should be followed. In ordinances, specific standards and clear definitions are needed because all ordinances must meet the minimum standards as set forth by state law. In addition, it is very important that land use ordinances be consistent with the recommendations of the comprehensive plan. The comprehensive plan provides the legal basis for enacting the ordinances, and their consistency with the plans, goals, and policies will be a major consideration in the event that the ordinances are subject to a legal challenge.

The Town of Glenburn has identified several specific needs and concerns that will be addressed in the land use ordinance. The land use ordinance will: (1) create a user-friendly application and permitting process; (2) assign more responsibility to code enforcement for review and approval; and (3) develop clear and consistent guidelines for obtaining approval.

LAND USE ORDINANCE PERFORMANCE STANDARDS

The Land Use Ordinance of the Town of Glenburn will be developed consistent with the identified needs of the town. In order to protect and preserve natural resources, property values, public safety, health and welfare, provide for affordable housing and ensure the proper future development of the town, the following performance standard topic areas will be developed and included within the town's land use ordinance:

Access Requirements - Standards will be developed which will minimize the creation of strip development within the community.

Agriculture - Standards will be developed which will minimize soil erosion to avoid sedimentation, non-point source pollution, and the phosphorus levels of Glenburn's water bodies.

Buffer Provisions - Standards will be developed to minimize the negative impacts of inconsistent development, and to protect Glenburn's water resources.

Conversion - Standards will be developed which will regulate the conversion of existing structures into multi-family dwellings ensuring the safety, health and welfare of Glenburn's citizens.

Home Occupation - Standards will be developed by which home occupations may be established minimizing their impact on existing neighborhoods.

Industrial Performance Standards - Standards will be developed which will ensure appropriate industrial development within designated areas of the community.

Manufactured housing - Standards will be developed to ensure the safety, health and welfare of mobile home occupants and mobile home owners regardless of the date manufactured.

Mobile Home Park - Standards will be developed regarding the placement and design of mobile home parks within the town.

Off Street Loading - Standards will be developed to minimize traffic congestion associated with commercial development.

Oil and Chemical Storage - Standards will be developed regarding the storage of combustible materials that are compatible with state and federal regulations

Parking Requirements - Parking space provisions will be created within the performance standards that will regulate the number of parking spaces to be provided depending upon the type of development proposed.

Pesticide Application - Standards will be developed to protect the public from dangers associated with pesticides.

Refuse Disposal - Standards will be developed regarding the disposal of solid and liquid wastes.

Sedimentation and Erosion - Standards will be developed (town-wide) so to minimize the volume of surface water runoff during and after development.

Signs - Standards will be developed regarding the placement of signs, sign size, and sign type.

Soils - Standards will be developed to ensure that development occurs on appropriate soils.

Storage Materials - Standards will be developed that will encourage the orderly storage of material in residential areas to promote and preserve the character of the neighborhoods.

Topsoil and Vegetation Removal - Standards will be developed to prevent soil erosion and

destruction of topsoil during construction.

OTHER CONSIDERATIONS

The planning board, code enforcement officer, board of appeal and Town Council will annually review the land use ordinance, shoreland zoning ordinance, subdivision regulation, mobile home park ordinance and floodplain management ordinance to ensure that there are no changes required. In reviewing these regulations, the planning board and code enforcement officer will consider whether or not there have been any changes in the minimum requirements of state or federal laws that would require local amendment of the land use regulations.

In order to educate residents on local land use ordinances, a list of all local ordinances and when they are applicable should be developed and made available to the public at the town office. An attempt should be made to notify and involve all citizens in the development and amendment of local ordinances.

ENFORCEMENT

The value of any ordinance is dependent on how well it is enforced. In order to achieve better enforcement, two issues are of importance: (1) the education of residents as to the requirements of local and state regulations, and (2) providing for adequate hours for the code enforcement officer to ensure that compliance is taking place. The key to adequate and successful enforcement is providing the code enforcement officer with the proper legal language and definitions within the land use ordinance. The success of any ordinance depends on the ability of the code enforcement officer to enforce the ordinance and support of the code enforcement department by management and elected officials.

PLANNING PERSPECTIVE

Glenburn's separation of growth and rural areas, and the purpose of the district it encompasses is meant to accommodate the Town's future growth and protect natural resources while responsibly managing the fiscal resources.

N. LOCAL POLICY PLAN

COMMUNITY CHARACTER AND HISTORY

Goal: *To preserve Glenburn's historic and archaeological resources.*

- | | |
|------------------------|---|
| 1. Policy: | Identify additional historical and archaeological resources not yet identified by State and Federal agencies. |
| Strategy: | Apply for funding from the MHPC and other sources to conduct a historical and archaeological resource survey. |
| Responsibility: | Town Manager |
| Time Frame: | Short-term |
| | |
| 2. Policy: | Increase residents' awareness of available funds for historic preservation. |
| Strategy: | Gather and make available to residents information regarding historic preservation including the Historic Preservation Tax Incentive Program, State Planning funds, survey grants, etc. |
| Responsibility: | Town Manager |
| Time frame: | Short-term |
| | |
| 3. Policy: | Increase awareness of locally significant buildings. |
| Strategy: | Highlight the existence of locally significant buildings and sites. |
| Responsibility: | Town Manager |
| Time frame: | Short-term |
| | |
| 4. Policy: | Collect and display historical and archaeological artifacts. |
| Strategy: | Continue to obtain and display important historical artifacts. |
| Responsibility: | Town Manager |
| Time frame: | Ongoing |
| | |
| 5. Policy: | Encourage educational activities that enhance the understanding of the Town's history. |
| Strategy: | Continue to support the museum, library, and 4 th grade history class. |
| Responsibility: | Town Council |
| Time Frame: | Ongoing |

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

- 6. Policy:** Encourage the formation and chartering of Glenburn's Historical Society
- Strategy:** Identify and contact potential Historical Society members. Schedule and coordinate initial meetings. Once organized, add the Historical Society as a responsible party, in conjunction with the present agent, for the implementation of policy numbers 1, 2, 3, 4, and 5 of the Community Character and History section.
- Responsibility:** Town Council
- Time Frame:** Immediate
- 7. Policy:** Protection of known historic or archaeological resources.
- Strategy:** When development is proposed adjacent to a known historical or archaeological site, it shall be the responsibility of the developer to provide the planning board with documentation supporting that the development will have no adverse impact on the known historical and archaeological resources. The future land use ordinance will include performance standards to protect these known historical and archaeological resources.
- Responsibility:** Planning Board
- Time Frame:** Short-term

POPULATION

Goal: *Encourage resident participation in the governmental process and to encourage community pride.*

- 1. Policy:** Recognize Glenburn's graduates.
- Strategy:** Hold an annual ceremony for Glenburn's graduating seniors where each student would be individually recognized for their achievements: grades, sports, special activity, volunteer work, future plans, etc. Also, fund a university scholarship.
- Responsibility:** School Committee and seniors
- Time Frame:** Immediate
- 2. Policy:** Encourage public participation in all areas of government and public services.
- Strategy:** Inform residents of the activities, achievements, meeting schedule, and openings for all local committees and boards.
- Responsibility:** Town Manager
- Time Frame:** Ongoing

Ongoing – self-explanatory

Immediate – planning or implementation should begin now

Short Term – action should be taken within 2-3 years

Long Term – action could be deferred

EMPLOYMENT AND ECONOMY

Goal: *Promote an economic climate in Glenburn that increases the Town's tax base, increases job opportunities for local residents needing employment, and encourages overall economic well-being.*

1. Policy: **Support small business development.**

Strategy: Establish a growth district in the vicinity of Glenburn Center (intersection of Lancaster, Brook, Lakeview, and Hudson Roads) to encourage mixed residential usage such as small commercial establishments and residential use.
Encourage development of retail and service businesses in the growth district.

Responsibility: Comprehensive Planning Committee and Planning Board

Time Frame: Immediate

2. Policy: **Encourage commercial and industrial development to the extent that it is complimentary with the rural character of Glenburn, is supportable by existing town services, and does not degrade existing natural resources.**

Strategy: Designate areas where commercial and industrial growth is encouraged.
Minimize conflicts between existing residential land uses and development of commercial and industrial land uses.
Economic development efforts should address attraction of light, environmentally conscious industrial and commercial activities to designated areas.

The future land use ordinance should include performance standards pertaining to buffer zones around industrial development.

Designate Broadway/Route 15 as business district.

Responsibility: Comprehensive Planning Committee and Planning Board

Time Frame: Immediate

3. Policy: **Support the efforts of the Bangor Region Chamber of Commerce.**

Strategy: Encourage the Chamber of Commerce to continue its involvement in civic improvement programs and economic development projects.

Responsibility: Town Council

Time Frame: Immediate

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

- 4. Policy:** Allow for the development of home occupations in Glenburn.
Strategy: Include in the future land use ordinance home occupation performance standards. Home occupations should be compatible with residential use and should not infringe upon the neighborhood or the environment.
Responsibility: Planning Board
Time Frame: Immediate
- 5. Policy:** Organize the formation of a Community and Economic Development Committee.
Strategy: The Glenburn Community and Economic Development Committee will consist of business owners, club representatives, civic groups, residents, Town officials, and others. The Town Manager will organize its formation and coordinate introductory meetings.
Responsibility: Town Council
Time Frame: Immediate

HOUSING

Goal: Encourage and promote affordable, decent housing opportunities for all Glenburn residents.

- 1. Policy:** Encourage the development of affordable housing that is decent, safe, and sanitary.
Strategy: The Town of Glenburn, through the future land use ordinance, will continue to encourage affordable housing opportunities in the Town by allowing a mixture of appropriate housing types. Glenburn's land use ordinance will allow for a variety of housing alternatives throughout the Town. Housing options that will be used within the Town to increase affordability will include: accessory dwellings which are self-contained living units, either attached or detached from the primary residential units on a single lot; single-family conversions in the growth district and in the rural area after review; and mobile home parks in the growth area. The land use ordinance will also allow mixed use in the growth district.
 Glenburn's land use and subdivision ordinances will include provisions to allow density bonuses and cluster housing in exchange for the provision of some below-market rate housing units. These incentives will be negotiated on a case-by-case basis.
Responsibility: Planning Board.
Time Frame: Short-term

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

- 2. Policy:** All development within the Town of Glenburn will meet the applicable State codes.
- Strategy:** Glenburn will enforce and implement the provisions of local ordinances and codes, the Maine Plumbing Code, and the National Electrical Code Life Safety 101, as well as an assortment of other State mandated legislation. The Town of Glenburn will meet its responsibilities by ensuring that the Code Enforcement Officer is allowed adequate enforcement time to make the necessary inspections thus ensuring compliance with the local and State regulations.
- Responsibility:** Planning Board.
- Time Frame:** Ongoing.
- 3. Policy:** Ensure that manufactured housing within the Town of Glenburn is safe, decent, and affordable.
- Strategy:** Manufactured housing built prior to 1976 will be required to be consistent with the future land use ordinance performance standards, including electrical, fire, plumbing, and related design standards.
- Responsibility:** Planning Board.
- Time Frame:** Ongoing.
- 4. Policy:** Ensure safe multi-family dwellings.
- Strategy:** Adopt the National Fire Protection Standards for multi-family dwellings.
- Responsibility:** Planning Board.
- Time Frame:** Ongoing.
- 5. Policy:** Ensure safe and healthy rental units.
- Strategy:** Include language in the land use ordinance aimed at ensuring sanitary and safe rental conditions.
- Responsibility:** Planning Board.
- Time Frame:** Short-term
- 6. Policy:** Ensure that housing remains affordable in Glenburn.
- Strategy:** Continue to support local and regional housing rehabilitation and affordable housing initiatives, including the CDBG housing rehabilitation grant program.
Support Penquis CAP, Rural Development (RD), and Maine State Housing Authority (MSHA) programs. Coordinate the Town's efforts with these programs and request annual up-dates on their respective program criteria and availability.
- Responsibility:** Town Manager and Community and Economic Development Committee.

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

Time Frame: Ongoing.

NATURAL RESOURCES

Goal: *To protect the quality and manage the quantity of Glenburn's water resources and critical natural resources, as well as to safeguard agricultural and forest resources from development which threatens those resources.*

1. Policy: **Ensure high quality ground and surface water.**

Strategy: Apply for MDEP Small Community Grants for the survey and replacement of failing septic systems that are a public nuisance.
Inventory and dye test all properties with septic systems located in shoreland zones.

Revise and implement the Glenburn Supplemental Plumbing Code providing for septic system testing prior to property transfer.

Enforce existing shoreland Zoning Regulations.

Responsibility: Town Manager, Planning Board, and Code Enforcement Officer.

Time Frame: Short-term

2. Policy: **Restrict development within identified floodplain areas.**

Strategy: Ensure that future land use ordinances contain provisions to regulate activities which could either increase flooding or create threats to the public safety or water quality.

Responsibility: Planning Board

Time Frame: Ongoing

3. Policy: **Update and conform to the minimum standards for the protection of natural resources as determined by the State and Federal Government.**

Strategy: Continue the enforcement of the Shoreland Zoning Ordinance. Conduct a yearly review of the Shoreland Zoning and future land use ordinances to update it.

Responsibility: Planning Board

Time Frame: Short-term

4. Policy: **Ensure that environmental resources of all types are taken into account during development review process.**

Strategy: Future land use ordinance site plan review processes and other pertaining ordinances should include a consideration of environmental criteria and resources so that environmental impacts are minimized or avoided and unique resources are preserved or maintained to the

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

Responsibility: maximum extent possible.
 Planning Board
 Time Frame: Ongoing

5. Policy: Protect and maintain Pushaw Lake water quality

Strategy: Appoint a Town Official(s) or Code Enforcement Officer as responsible for overseeing the use and status of Pushaw Lake.
 Support Pushaw Lake Association and Pushaw Lake monitoring.
 Establish a lake protection level, establish phosphorus increase level, compute future area of development, and establish phosphorus loading rates.
 Identify local regulatory and non-regulatory measures aimed at reducing erosion and sedimentation.
 Organize a Water Quality Review Committee where each community will be represented.
 Post water quality data at the Town Office and other places.
 Develop a water quality management plan and incorporate into future land use ordinances the proposed performance standards.
 Educate watershed residents.
 Work with property owners to resolve erosion problems which are contributing phosphorus runoff into Pushaw Lake.
 Create and maintain pictorial documentation for each of Glenburn shoreland zone properties. These records will be updated annually, as well as every time a property is transferred.

Responsibility: Town Council, Planning Board, Town Manager, Code Enforcement Officer, Pushaw Lake Association, and future Watershed Committee.

Time Frame: Short-term

6. Policy: Encourage environmentally correct practices

Strategy: Include a green column in local newsletters to help residents understand the impact of their actions and provide tips on what they can do to help protect Glenburn's natural environment.
 Educate residents about the ecological and economic importance of protecting natural critical resources.
 Encourage and work with individual landowners who have critical natural resources to protect and conserve these areas.
 Encourage the use of MDEP's Best Management Practices.

Responsibility: Town Manager, Planning Board, and Recycling Committee.

Time Frame: Short-term

7. Policy: Review Glenburn's wetland delineation.

Strategy: Discuss with professionals the methodologies used to delineate these

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

- areas.
Identify the impacts of these delineation on the Town of Glenburn.
If necessary, review MDEP's wetland delineation.
- Responsibility:** Comprehensive Planning Committee, Planning Board, and Code Enforcement Officer.
- Time Frame:** Short-term
- 8. Policy:** **Decrease NPS from agricultural practices to Pushaw Lake.**
- Strategy:** Document and report agricultural runoff problems to the Natural Resource Conservation Service in Bangor.
- Responsibility:** Code Enforcement Officer.
- Time Frame:** Short-term

RECREATION

Goal: *The goal of this section is to promote and protect the availability of outdoor recreational opportunities for all citizens, including access to surface waters.*

- 1. Policy:** **Continue to improve existing recreational facilities.**
- Strategy:** Fund improvement to the Town's exiting recreational facilities as set forth in the Capital Improvement Plan.
- Responsibility:** Recreation Department, Council, Town Manager.
- Time Frame:** Ongoing.
- 2. Policy:** **Promote and develop Glenburn's recreational facilities and programs.**
- Strategy:** Promote Glenburn Elementary School Nature Trail.
Survey and assess the weaknesses and strengths of Glenburn's recreational program and facilities.
- Responsibility:** Recreation Department.
- Time Frame:** Ongoing.
- 3. Policy:** **Support local snowmobile trails.**
- Strategy:** Encourage the maintenance of snowmobile trails
- Responsibility:** Local Snowmobile Club.
- Time Frame:** Ongoing.
- 4. Policy:** **Encourage the preservation of open space.**
- Strategy:** Conduct a legal search of the status of the Old Six Mile fall Road and the Old County Road. Explore the possibilities of using them as hiking/cross-country skiing trails; the first major step in the

Ongoing – self-explanatory

Immediate - planning or implementation should begin now

Short Term - action should be taken within 2-3 years

Long Term - action could be deferred

establishment of an east/west hiking corridor.

Obtain easement from owners in an effort to ensure trail continuity.

Encourage cooperation of the private landowners to ensure continuation of public access to open land for hunting, cross-skiing, snowmobiling, etc.

Link the various recreational facilities with trails and green corridors.

Responsibility:

Planning Board, Recreation Department, Town Manager, and Council.

Time Frame:

Short-term

TRANSPORTATION

Goal:

The goal of this section is to plan for, finance, and develop an efficient system of transportation facilities and services to accommodate anticipated growth and economic development.

1. Policy:

Provide for cost effective maintenance of Town roadways.

Strategy:

Include in the CIP long range maintenance and reconstruction costs.

Responsibility:

Town Manager and Town Council.

Time Frame:

Immediate

2. Policy:

Develop access management performance standards for activities that will generate significant local traffic.

Strategy:

The Land Use section of this plan and the future land use ordinance of the Town of Glenburn will include access management performance standards for large subdivision and non-residential uses.

Responsibility:

Comprehensive Planning Committee, Planning Board, and Code Enforcement officer.

Time Frame:

Immediate

3. Policy:

Develop and maintain a safe sidewalk/trail system to enhance pedestrian environment, create opportunities to walk, and to connect schools, public buildings, recreation uses, and residential areas.

Strategy:

Develop a comprehensive sidewalk/trail improvement program for Glenburn, by evaluating existing systems, identifying the needs of the residents, establishing priorities for improving and maintaining existing sidewalks/trails and installing sidewalks/trails, and developing a program for sidewalk/trail improvements.

Responsibilities:

Town Council, Planning Board, Recreation Committee, Town Manager.

Time Frame:

Long-term

Ongoing – self-explanatory

Immediate – planning or implementation should begin now

Short Term – action should be taken within 2-3 years

Long Term – action could be deferred

- 4. Policy:** Recognize that the Hudson Road plays a dual role as both the "spine" of the community and as a road moving traffic through Glenburn, and ensure that the local role is the predominant one.
- Implementation:** Continue to work with the MDOT to ensure adequate maintenance, upgrading, and safe traffic flow.
- Responsibility:** Town Council, Planning Board, and Town Manager.
- Time Frame:** Immediate
- 5. Policy:** Ensure that new roads are built to Town standards.
- Strategy:** Include road performance standards into the Subdivision Ordinance. Develop and adopt a road acceptance ordinance.
- Responsibility:** Planning Board, Code Enforcement Officer, Town Manager, and Town Council.
- Time Frame:** Immediate

PUBLIC FACILITIES AND SERVICES

Goal: *The goal of this section is to plan for, finance, and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development. .*

- 1. Policy:** Continue to provide quality education opportunities for Glenburn residents.
- Strategy:** Continue to support the construction of the new school.
- Responsibility:** School Committee and Town Council.
- Time Frame:** Short-term.
- 2. Policy:** Ensure that Town government functions are compatible with the intent of the Glenburn Comprehensive Plan.
- Strategy:** Encourage appointed officials to read and understand the Comprehensive Plan policies pertaining to their function(s). Five years after adoption of the Comprehensive Plan, policy plans should be reviewed and updated. Continue planning efforts based on input from residents, municipal departments, employees, manager, and volunteers.
- Responsibility:** Town Manager and Council.
- Time Frame:** Ongoing.

FISCAL CAPACITY

Goal: *The goal of this section is also to plan for, finance, and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development.*

Ongoing – self-explanatory

Immediate – planning or implementation should begin now

Short Term – action should be taken within 2-3 years

Long Term – action could be deferred

- 1. Policy:** Include the CIP as an integral part of the Town's fiscal management system.
- Strategy:** Do a yearly review of projects listed in the CIP.
Develop a project request form.
Coordinate the schedules of the CIP budget preparation and the operating budget.
Develop criteria to evaluate project requests including potential funding sources to pay for the project, as well as its operating and maintenance costs for later years.
- Responsibility:** Town Manager and Council.
- Time Frame:** Immediate.

LAND USE

Goal: *The goal of this section is to provide a basis for future land use controls by profiling the existing land use regulations, recent development, and the land areas unsuitable for development in Glenburn.*

- 1. Policy:** Ensure that all land use ordinances are consistent with the Comprehensive Plan.
- Strategy:** Regularly review land use ordinances and regulations to ensure consistency with the intent of the Comprehensive Plan.
- Responsibility:** Town Manager, Code Enforcement Officer, and Planning Board.
- Time Frame:** Immediate.
- 2. Policy:** Develop necessary land use regulations as deemed appropriate by the will of the voters.
- Strategy:** An application will be made for a grant and will the future Land Use Ordinance will be developed consistent with the goals and guidelines of this Comprehensive Plan.
- Responsibility:** Town Council, Town Manager and Planning Board
- Time Frame:** Immediate.
- 3. Policy:** Creation of sub-districts for the growth area.
- Strategy:** The future Land Use Ordinance will locate a "Village Center" and surrounding residential growth areas with consideration given to existing developmental patterns.
- Responsibility:** Town Council, Town Manager and Planning Board
- Time Frame:** Immediate.

Ongoing – self-explanatory

Immediate – planning or implementation should begin now

Short Term – action should be taken within 2-3 years

Long Term – action could be deferred

O. REGIONAL POLICY PLAN

COMMUNITY CHARACTER AND HISTORY

- 1. Policy:** The Town of Glenburn will cooperate with neighboring municipalities to ensure that shared historic and archaeological resources are preserved and protected.
- Strategy:** The Towns of Glenburn will approach the towns of Hudson, Old Town and Orono to see if they are interested to coordinate efforts in seeking funding sources to survey the shores of Pushaw Lake for historic and archeological resources, and Kenduskeag and Bangor to survey the banks of the Kenduskeag Stream.
- Responsibility:** Town Council
- Time Frame:** Short-term

POPULATION

It has been deemed unnecessary for Glenburn to develop regional policies pertaining to the Population section.

EMPLOYMENT AND ECONOMY

- 1. Policy:** Work with regional organization in order to efficiently address regional economic issues.
- Strategy:** Participate in regional economic development efforts such as the Maine Managers meeting, Eastern Maine Development Corporation Annual Overall Economic Development Plan, and support the Greater Bangor Region Chamber of Commerce.
- Responsibility:** Town Council, Town Manager, and Glenburn's future Community and Economic Development Committee.
- Time Frame:** Ongoing
- 2. Policy:** Work with surrounding communities in developing regional plans.
- Strategy:** Meet with adjacent communities to determine the interest in joint approaches to economic growth including economic development, transportation, solid waste, and land use.
- Responsibility:** Town Council and Glenburn's future Community and Economic Development Committee.
- Time Frame:** Ongoing

HOUSING

- 1. Policy:** Work with neighboring municipalities to set similar goals and priorities for providing affordable and low income housing to assure that no one community bears disproportionate shares of the obligation.
- Strategy:** Continue to work jointly with existing authorities to provide affordable housing.
- Responsibility:** Comprehensive Planning Committee, Town Council, and Town Manager
- Time Frame:** Short-term

NATURAL RESOURCES

- 1. Policy:** Continue to participate in regional water quality and natural resources protection initiatives and programs
- Strategy:** Work with neighboring communities for the mutual protection of natural resources. If there is a particular issue of regional concern, call a regional meeting to discuss the issue.
Provide the neighboring towns with copies of Glenburn's Land Use Ordinance, Shoreland Zoning Ordinance, and any other ordinance that regulates shared natural resources.
- Responsibility:** Town Council and Planning Board
- Time Frame:** Immediate

RECREATION

- 1. Policy:** Continue to participate in regional recreational initiatives and programs.
- Strategy:** Glenburn will continue to support regional opportunities. The Town will continue to explore additional recreational opportunities and will contact the recreation departments of the adjacent towns and promote any new regional recreational programs.
- Responsibility:** Town Council and Recreation Department
- Time Frame:** Short-term

TRANSPORTATION

- 1. Policy:** Continue to participate in regional transportation initiatives and programs including the RTAC process.
- Strategy:** Glenburn will continue to explore regional shared maintenance agreements with the surrounding towns for cooperation in the optimum use, construction, maintenance, and repair of roads. Attend RTAC meetings to get Glenburn's seasonally posted state-owned roads upgraded. Furthermore, Glenburn will continue to support Penquis CAP transportation services.
- Responsibility:** Town Council and Town Manager.
- Time Frame:** Ongoing

PUBLIC FACILITIES AND SERVICES

- 1. Policy:** Encourage cost effective emergency management solutions.
- Strategy:** Continue to share fire protection and ambulance services with neighboring communities.
- Responsibility:** Town Management and Town Council.
- Time Frame:** Ongoing.

LAND USE

- 1. Policy:** Encourage compatible land uses with neighboring communities.
- Strategy:** Meet on an annual basis with neighboring communities to coordinate zone designations and performance standards, as well as enforcement.
- Responsibility:** Planning Board and Code Enforcement Officer.
- Time Frame:** Immediate.

P. CAPITAL IMPROVEMENT PLAN

The primary implementation strategy for fiscal matters is the development of a Capital Improvement Plan (CIP). The purpose of a CIP is to establish a framework for financing needed for capital investments. It is a plan to authorize, acquire, and/or construct a number of capital improvements.

Throughout the comprehensive plan, projects have been identified which will require a substantial amount of funding over the next five years. These projects should be included in a formal CIP and analyzed with respect to priority, cost, and feasibility. Like any long-range plan, the CIP is subject to reevaluation, alteration, and change. By developing and approving a formal CIP, the Town of Glenburn will be approving an official statement of objectives for its annual acquisitions and improvements. As the initial CIP takes definite form, it should be tied into the Town's normal schedule of budget review. The CIP, which becomes the capital improvement budget, should be closely coordinated with the operating budget preparation schedule. Generally, the preparation of the CIP budget should precede preparation of the operating budget. To the greatest possible extent, tentative decisions on projects to appear in the annual capital improvement budget should be made before the operating budget is prepared.

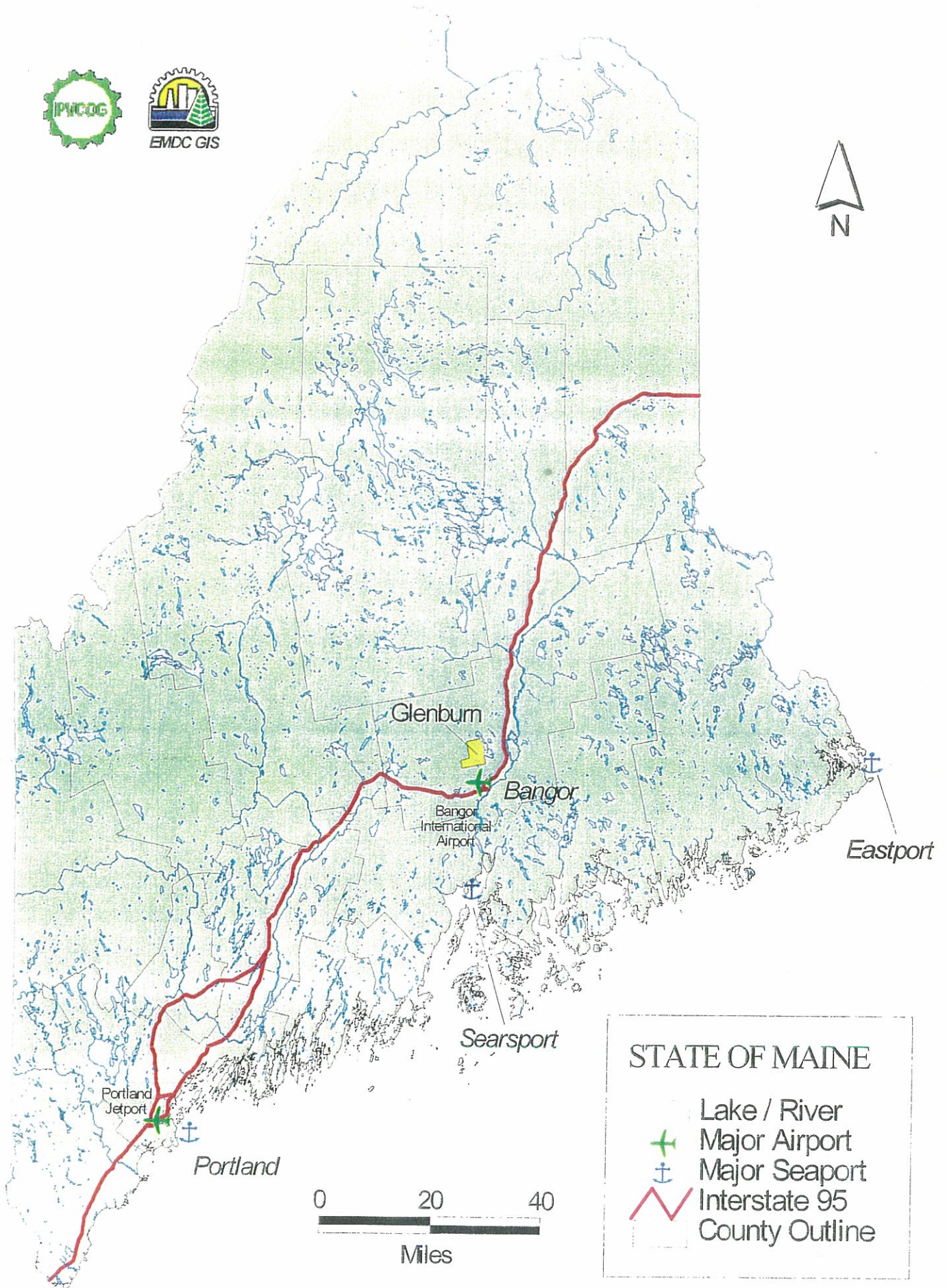
Capital investments have the following characteristics: they are relatively expensive (usually having an acquisition cost of \$5,000 or more); they usually do not recur annually; they last a long time (usually having a useful life of three or more years); and they result in fixed assets.

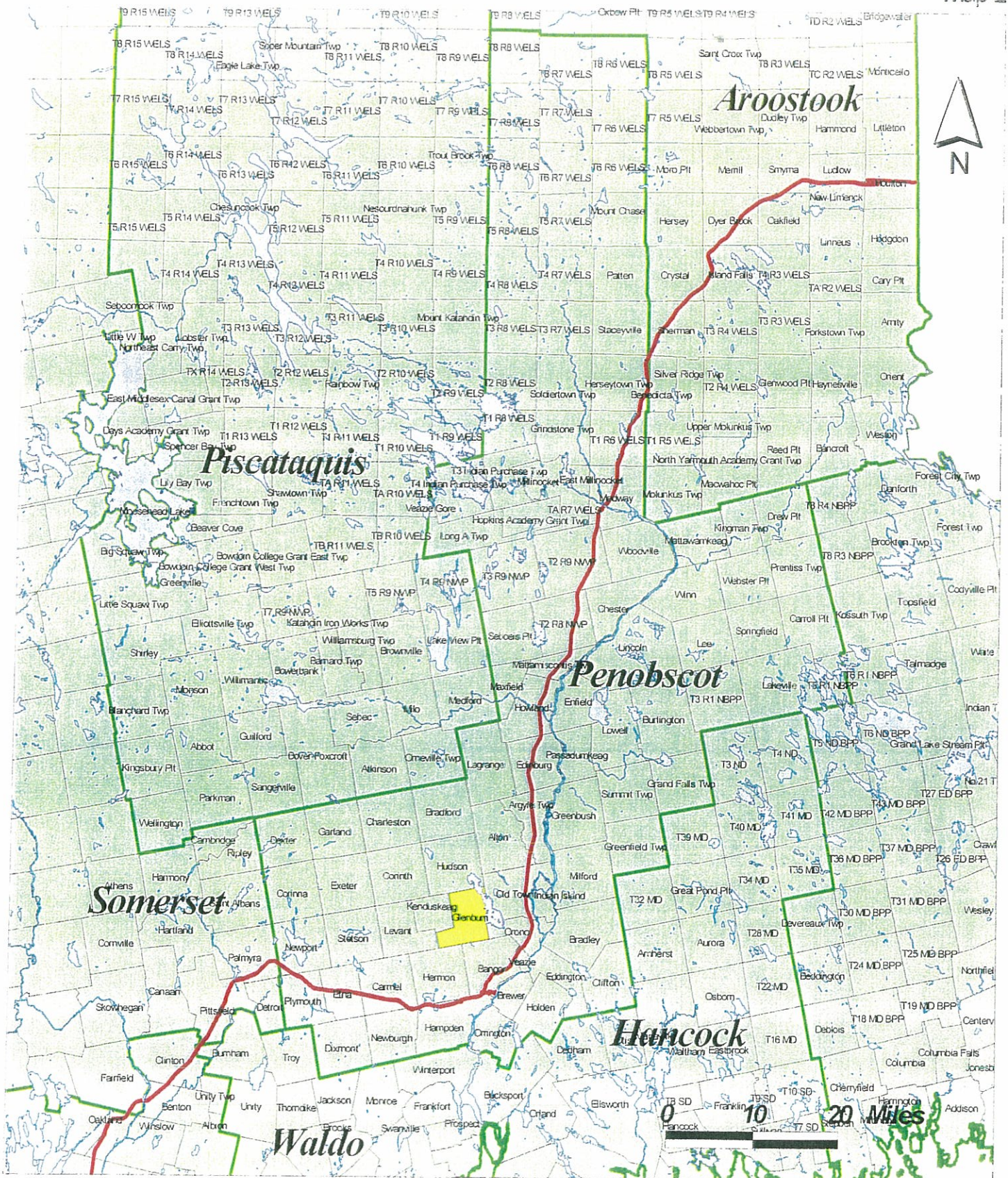
It can be safe to assume that requests for improvements will exceed the available dollars. Therefore setting priorities is a necessity. To be effective, the CIP must be based on well-thought-out priorities. A way to determine priorities is to have criteria for evaluating each proposed project and to determine the funds available to pay for these projects as well as their operating and maintenance costs for later years.

Described below is a list of projects that could be included in the Town's formal CIP.

1. **ADDITION TO THE MUNICIPAL BUILDING:** The Town Council will oversee the project. The final appropriation and construction are anticipated for 1999-2000 with a total of \$36,000 being appropriated to date. Expected total cost: \$40,000.
2. **UPGRADE THE ACOUSTICAL COMPONENT OF THE MUNICIPAL BUILDING** (i.e. communications equipment-telephones): The Town Council will oversee the project. No monies have been appropriated to date and the estimated cost is \$4,000. Target date is fiscal year 1999-2000.
3. **AIR QUALITY UPGRADE OF GLENBURN ELEMENTARY SCHOOL:** The superintendent plans to apply for newly created State funding for this project which has an estimated cost of \$60,000. Target date is fiscal year 1999-2000.

4. **NEW MIDDLE SCHOOL:** This will occur through the use of State monies with a local match. The superintendent estimates that this project will occur in 5 to 7 years. At this time, the Town has not appropriated any funds to the project. The Town is considering bonding the entire amount of the local match at the time of construction. The school committee will oversee the project.
5. **NEW PUMPER TRUCK:** The final payment on the fire station will occur in December of 1999, therefore, enabling a yearly budget appropriation of \$25,000, commencing in 2000-2001 and terminating in 2005-2006. The total appropriation of \$150,000 should allow for the purchase of the truck late in the calendar year of 2006. The Fire Department will oversee this project.
6. **WEST GLENBURN FIRE SUBSTATION AND COMMUNITY CENTER:** As mentioned above, the final payment on the new fire station (\$40, 261) will occur in December of 1999. If \$25,000 is appropriated yearly for the pumper truck, the remaining \$15,000 could then be available to appropriate towards the funding of the West Glenburn "Fire Substation". The first appropriation would commence in 2000-2001 and terminate in 2009-2010. The total appropriation of \$150,000 should allow for launch of construction that year. The Fire Department will be responsible for this project.
7. **WEST GLENBURN SAND AND SALT STORAGE SHED:** Upon the pay-off of the Lakeside Landing bond in the year 1999-2000, \$10,000 per year should be available, commencing in the year \$2000-2001 for this project. Since design costs are unpredictable due to changes in standards and technology this funding should be reviewed annually. Furthermore, special attention should also be given to new methodology for ice/snow removal which may alter the necessity for storage of large amounts of sand/salt. The Town Manager will be responsible for this project.
8. **REGULARLY SCHEDULED MAINTENANCE AND UPGRADES:** Currently, this is not an item that necessitates consideration. The Town Manager shall be responsible to include such items when necessary.







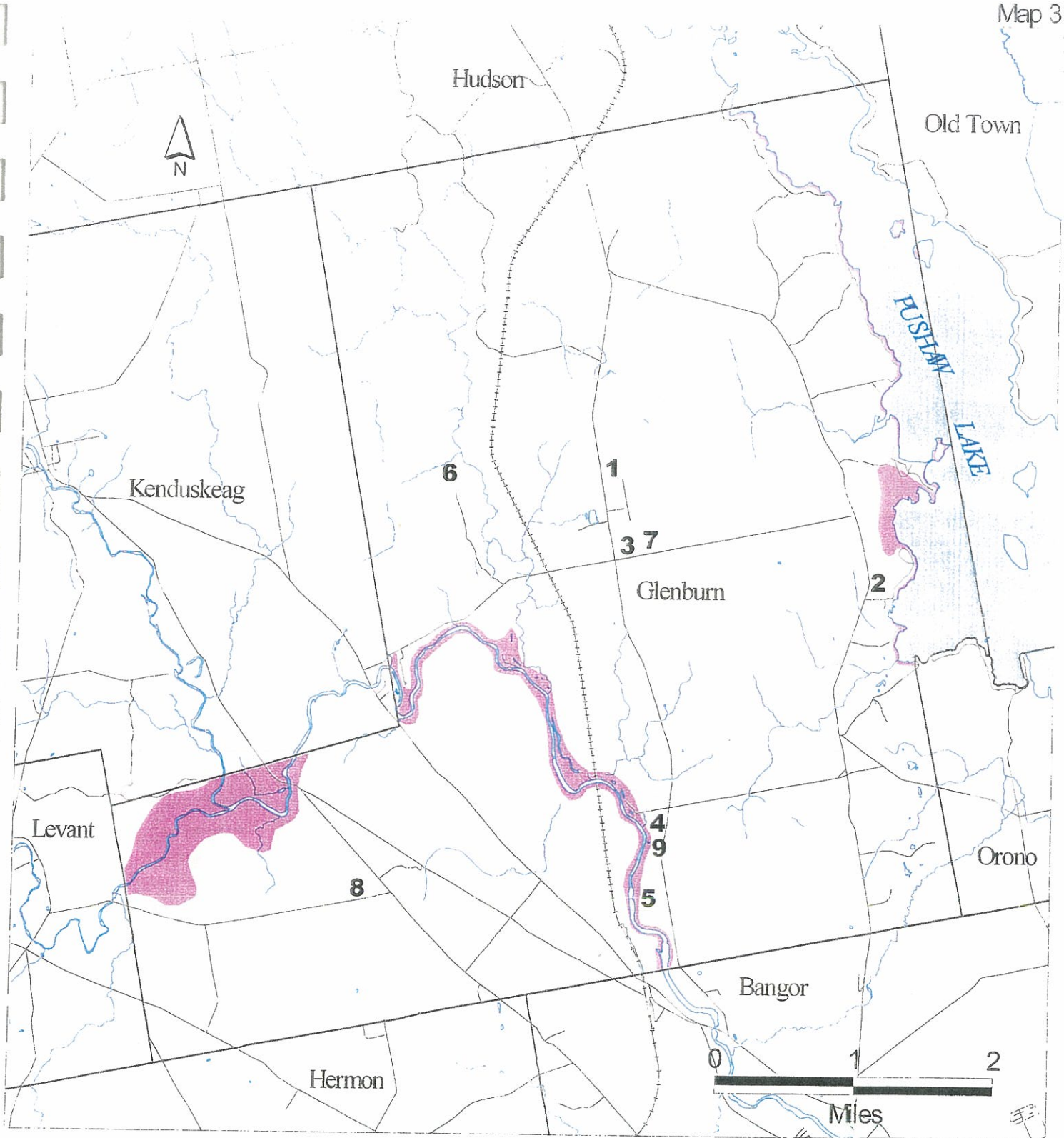


PENOBSCOT COUNTY

and Surrounding Region



-  Lake / River
-  Interstate 95
-  County Outline
-  Town of Glenburn



Glenburn

Penobscot County

Historical and Archeological Resources

- Town
- Stream
- Railroad
- Road
- Lake / River
- Archeological Resource Potential*

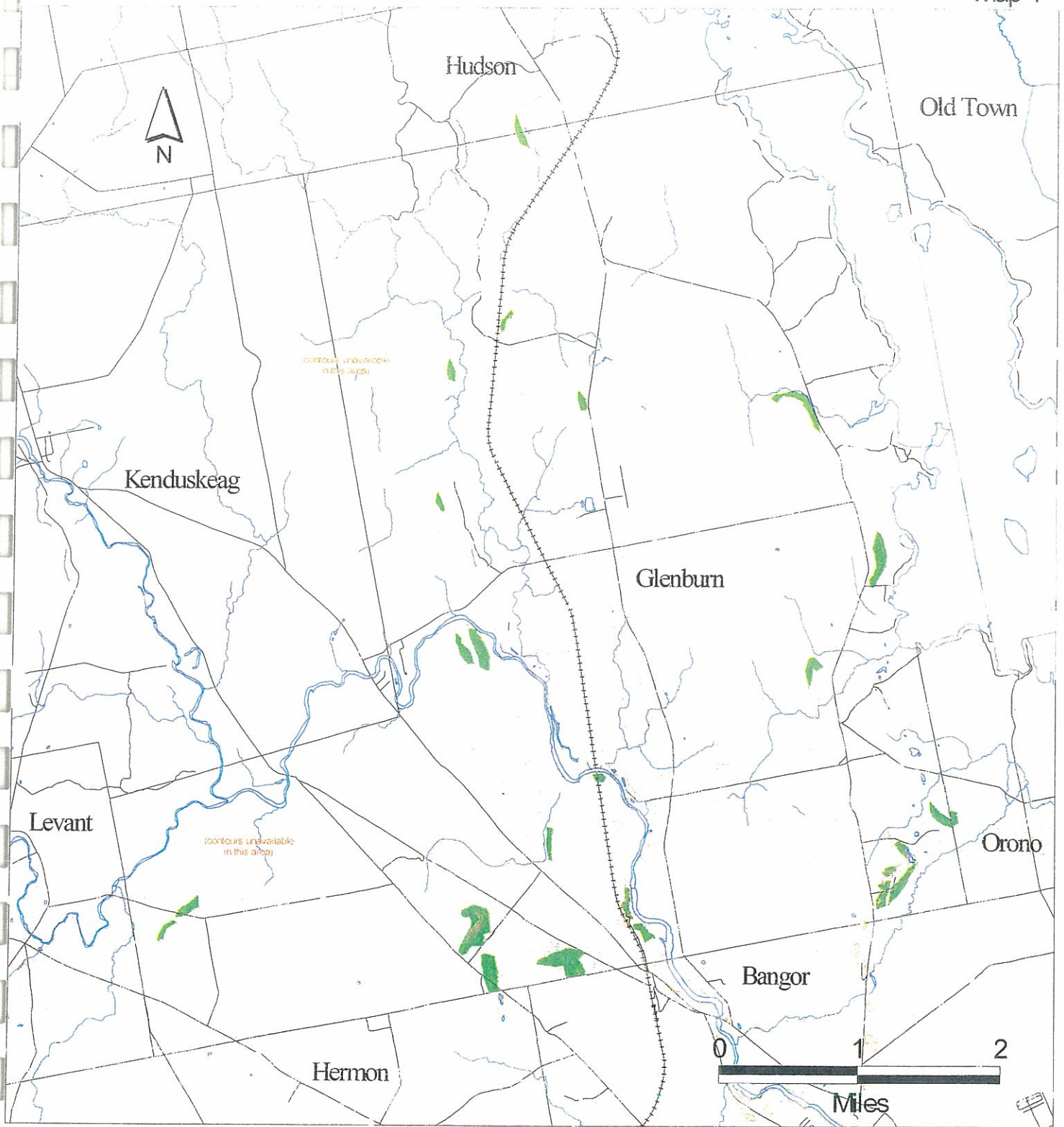


Local Historic Sites**

- 1 Original School House
- 2 Abbot House / Old Cemetery
- 3 Brick House
- 4 Emery House
- 5 Horse Trail
- 6 Charcoal Kiln
- 7 Old School House
- 8 West Glenburn Old School House
- 9 Grave Site

* Source: Maine Historic Preservation Commission, Arthur Speiss, Archaeologist, 1/97
Base Map Data: Maine Office of GIS

** Source: Town of Glenburn
To be used for planning purposes only



Glenburn

Penobscot County

Terrain Relief



- Town Boundary
- Road
- Railroad
- Stream
- Lake / River
- Contours (Interval 10 ft)
- Steep Slope (15% +)

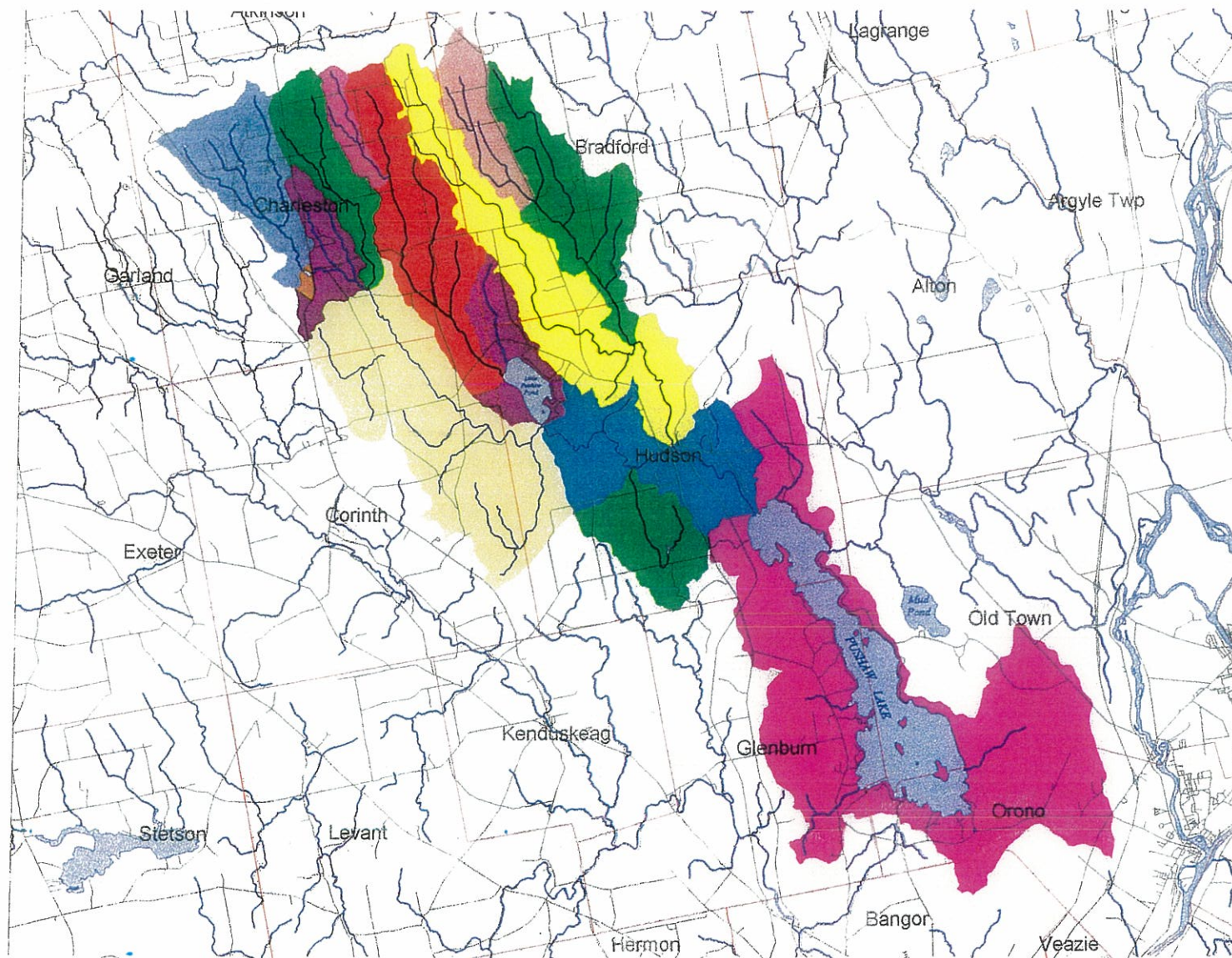
Map 5

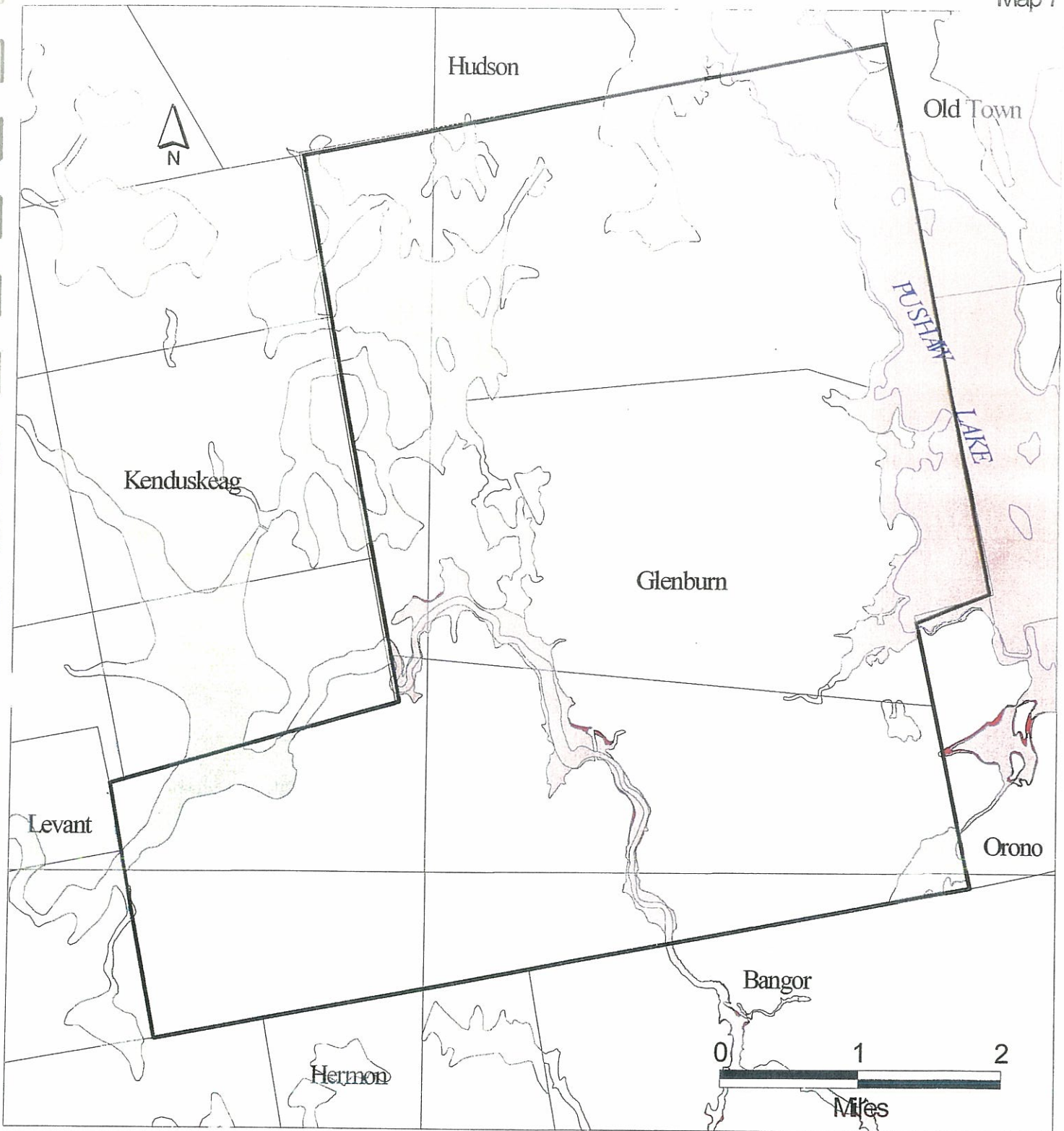
Drainage Divides of Pushaw Lake Watershed

-  Roads
-  Lakes / Rivers
-  Streams
-  Town Boundaries



0 2 4 6 Mile





Glenburn

Penobscot County

Floodplain Zones



Source: FEMA National Flood Insurance Program Q3 Flood Data
To be used for planning purposes only

Pushaw Lake

Glenburn

Zones

A

AE

X

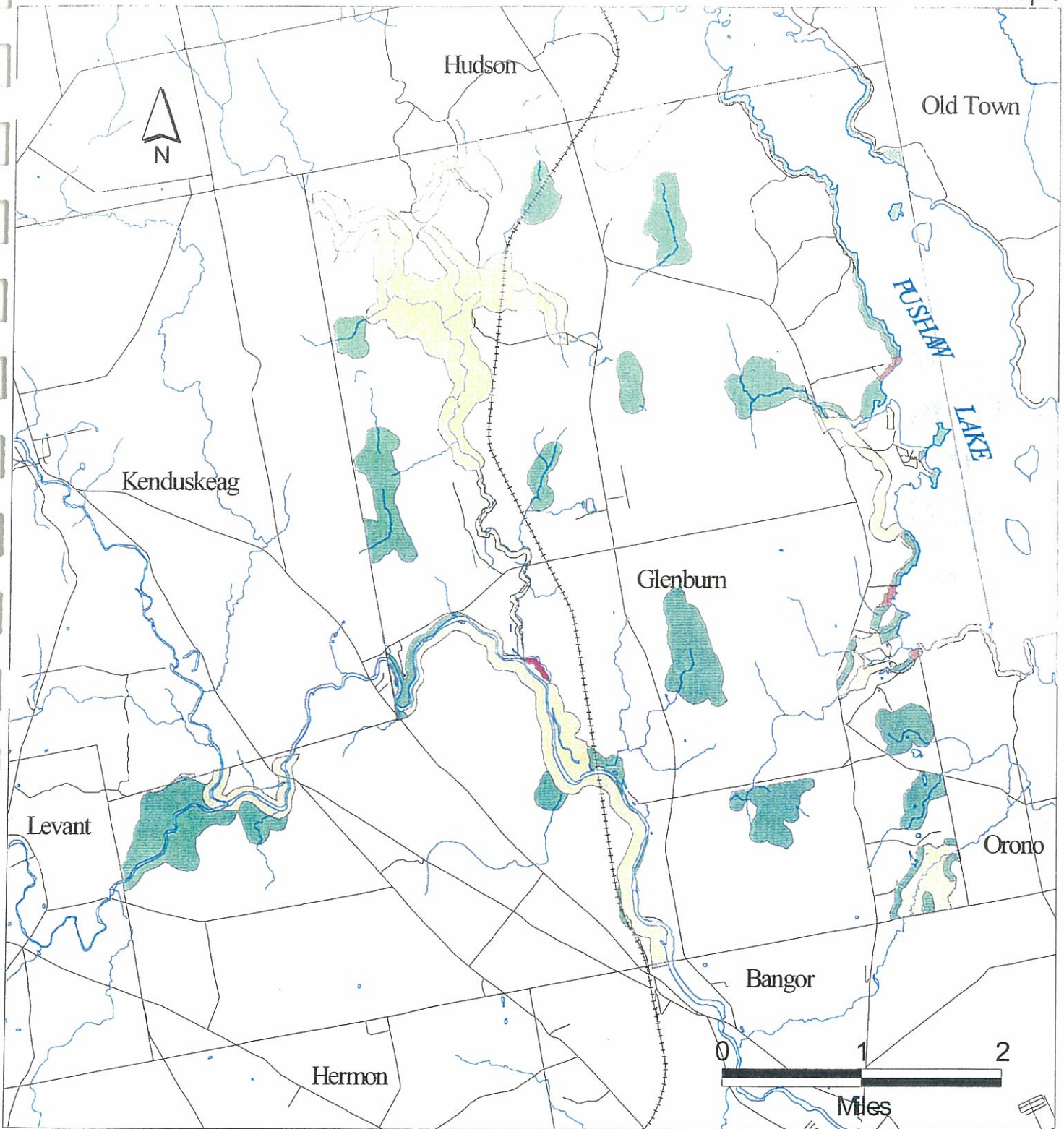
X500

Zone A - An area inundated by 1% annual chance flooding, for which no BFEs have been determined.

Zone AE - An area inundated by 1% annual chance flooding, for which BFEs have been determined.

Zone X - An area that is determined to be outside the 1% and 0.2% annual chance floodplains.

Zone X500 - An area inundated by 0.2% annual chance flooding; an area inundated by 1% annual chance flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile; or an area protected by levees from 1% annual chance flooding.



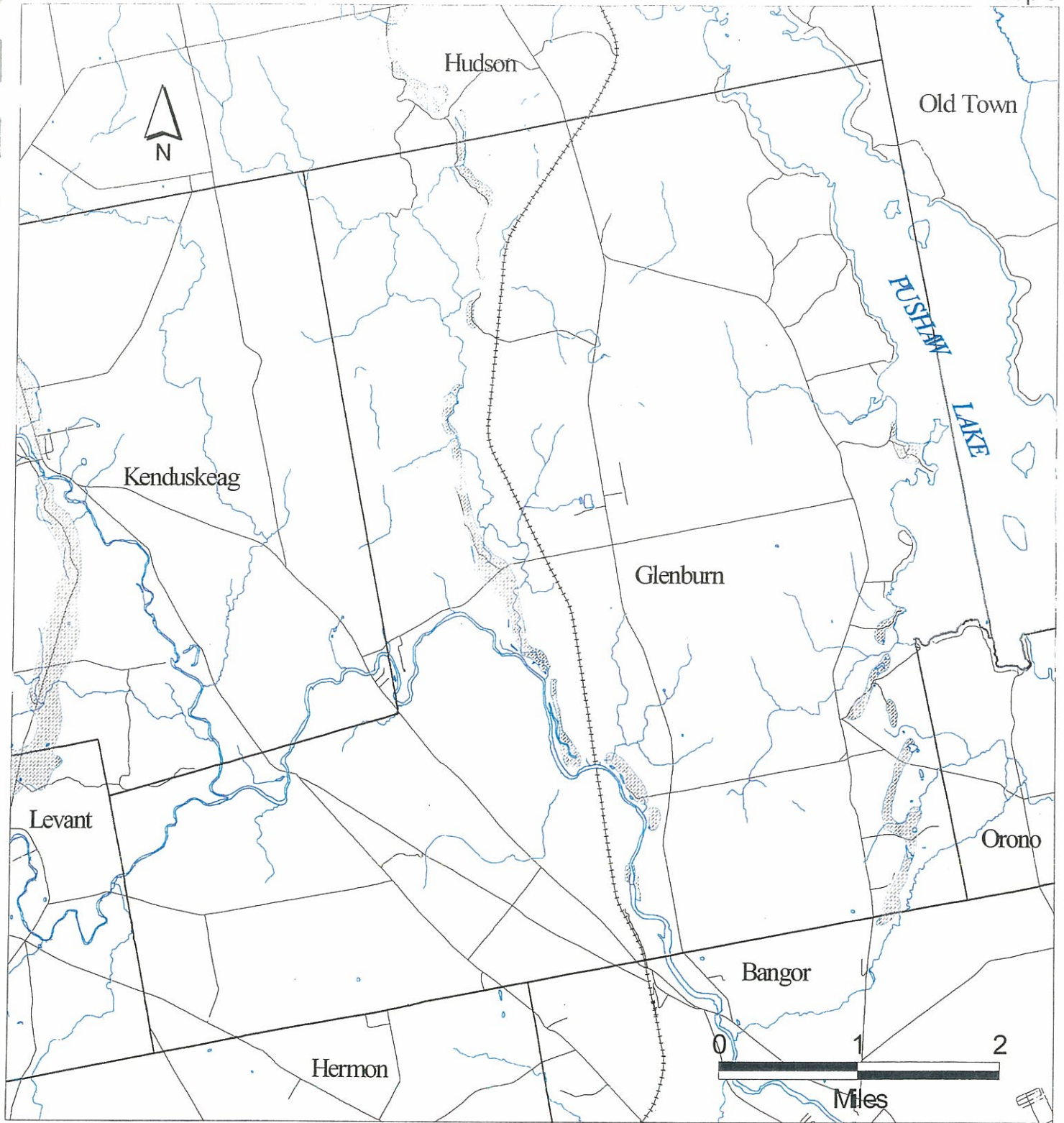
Glenburn

Penobscot County

Shoreland Zoning



- Town Boundary
- Road
- Railroad
- Stream
- Lake / River
- Zones**
- General Development
- Limited Residential
- Resource Protection
- Stream Protection



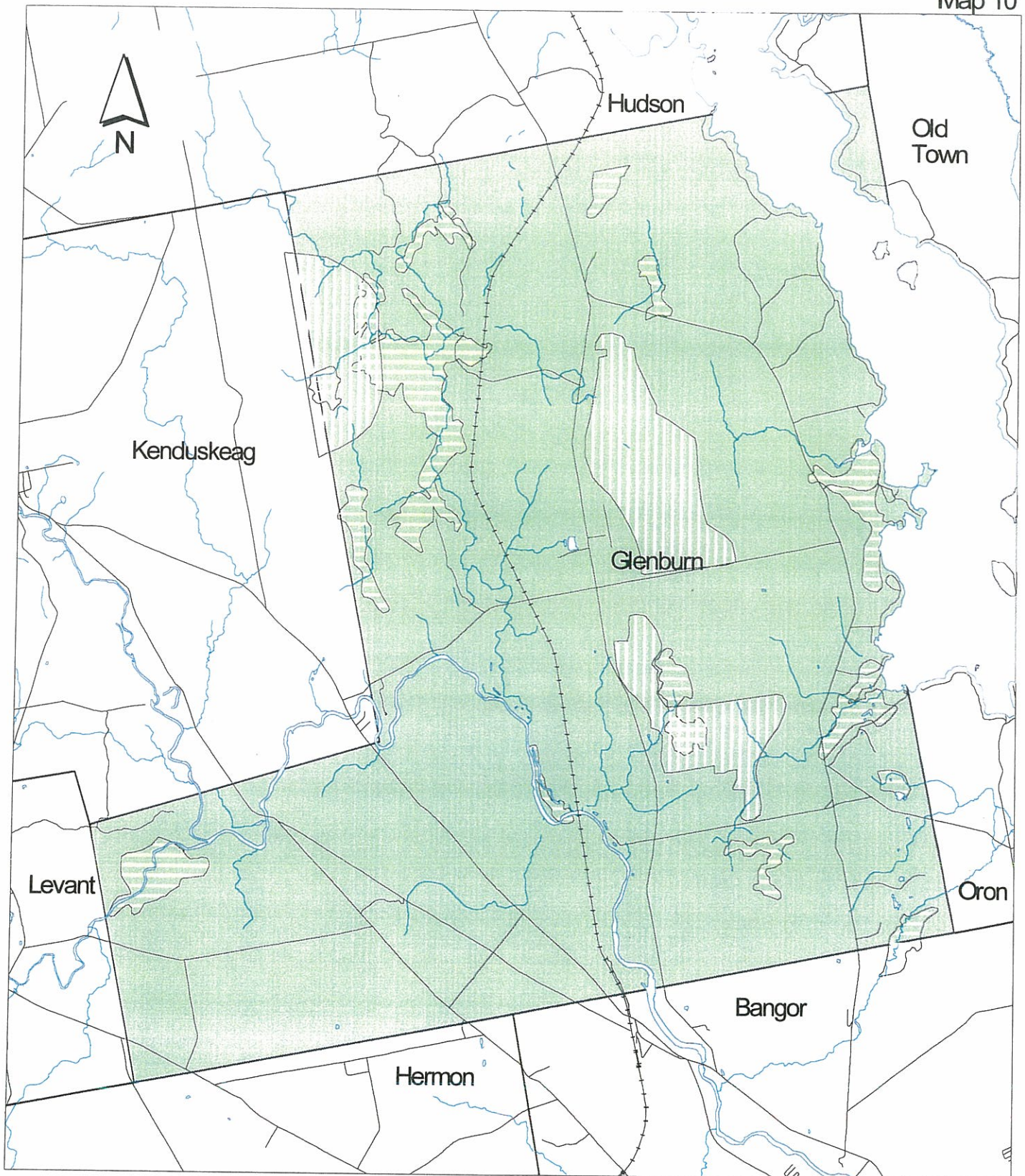
Glenburn

Penobscot County

Sand & Gravel Aquifers



- Town Boundary
- Road
- Railroad
- Stream
- Lake / River
- Aquifers
- 10-50 GPM



Glenburn

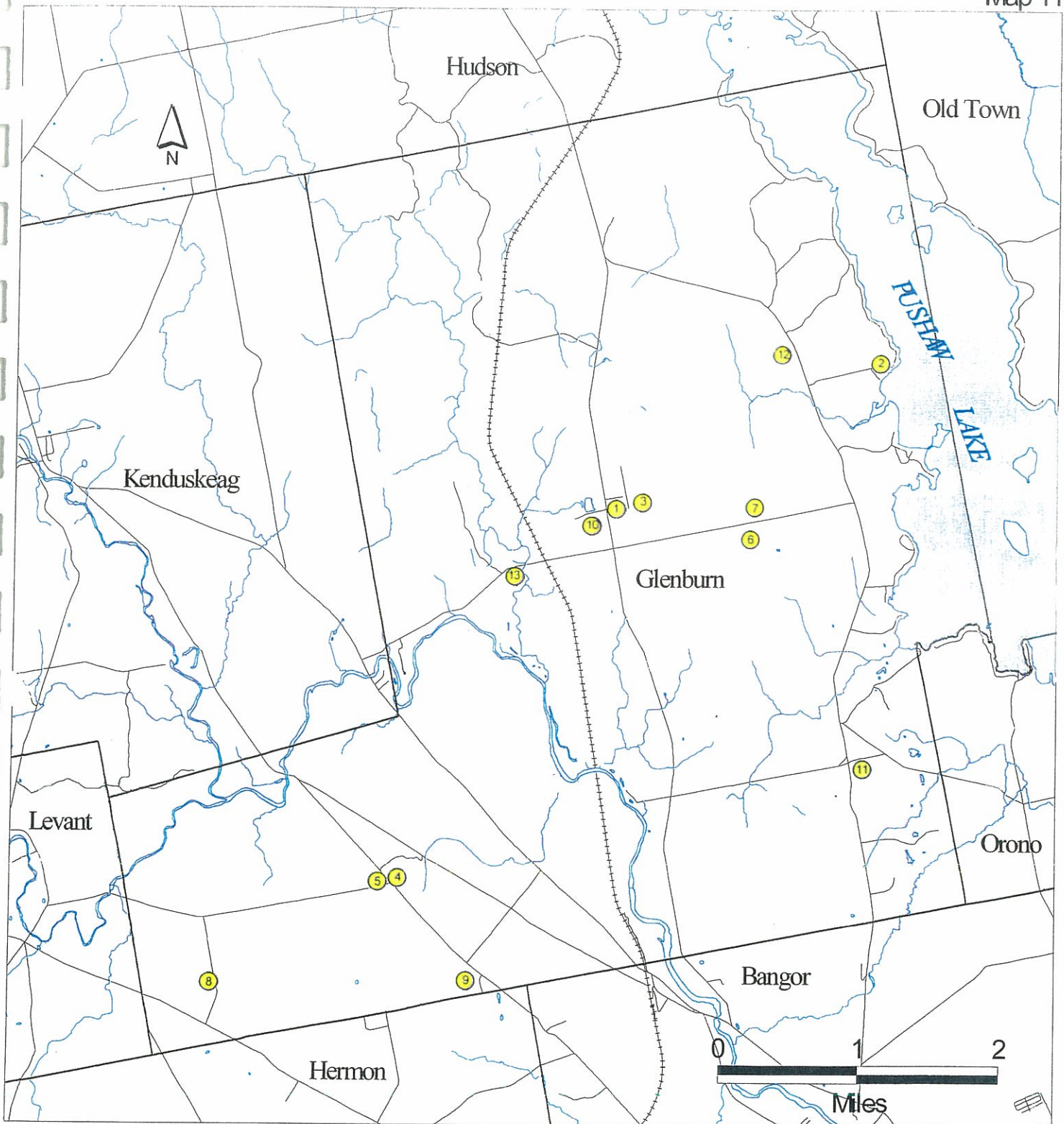
Penobscot County

Wildlife Areas



 Road
 Railroad

 Deer Wintering Areas
 Waterfowl and Wading Bird Areas



Glenburn

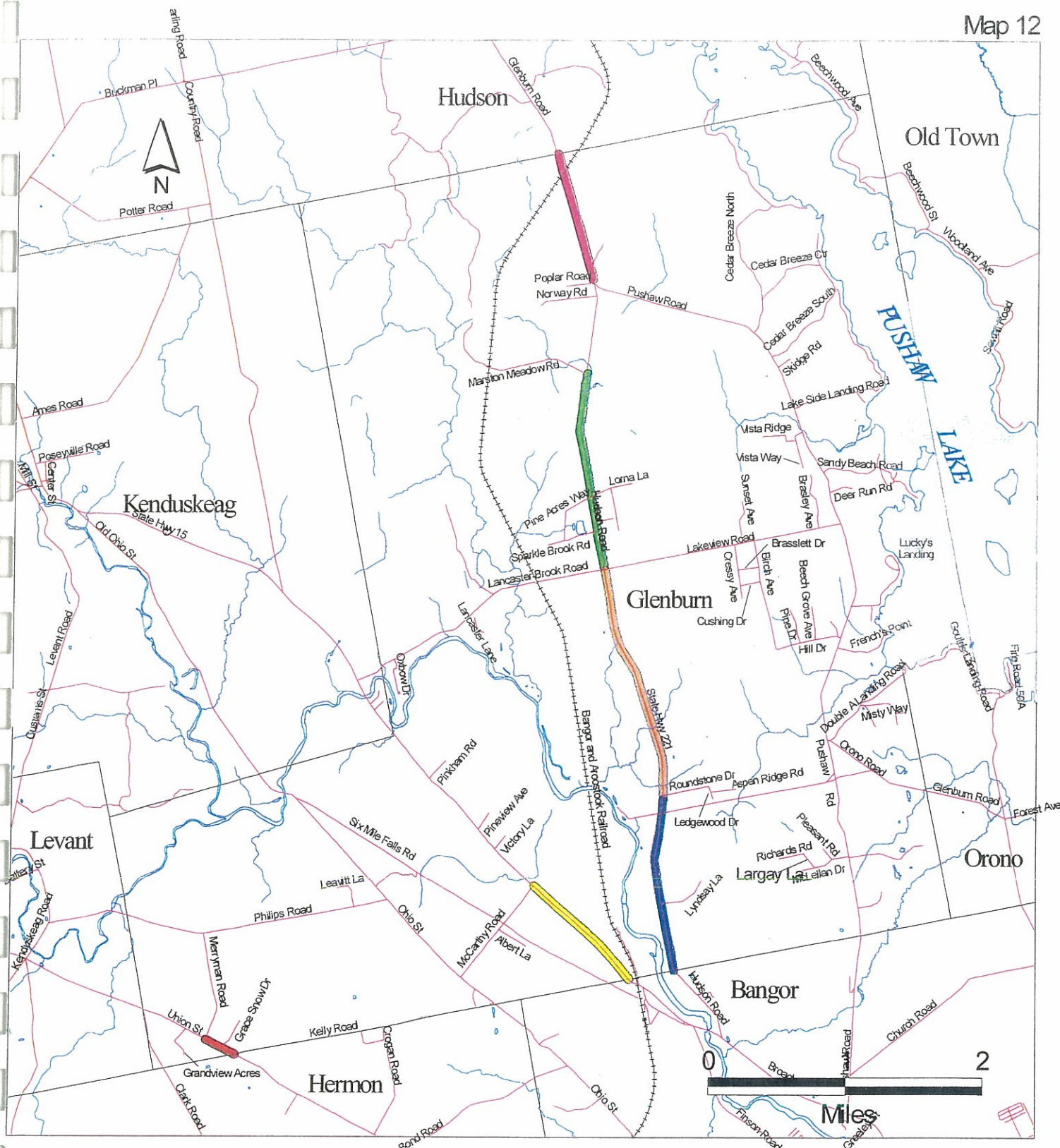
Penobscot County

Recreational and Public Facilities

-  Facilities
-  Town Boundary
-  Road
-  Railroad
-  Stream
-  Lake / River



- 1 Glenburn Elementary School
- 2 Lakeside Landing
- 3 Weston Smith Facility
- 4 West Glenburn Recreational Facility
- 5 West Glenburn Community Center
- 6 Glenburn Municipal Building
- 7 Lake View Road Cemetery
- 8 Merriman Road Cemetery
- 9 Kelly Road Cemetery
- Dry Hydrants
- 10 Sparkle Pond
- 11 James Murphy
- 12 Herb Rowe
- 13 Lancaster Brook Rd



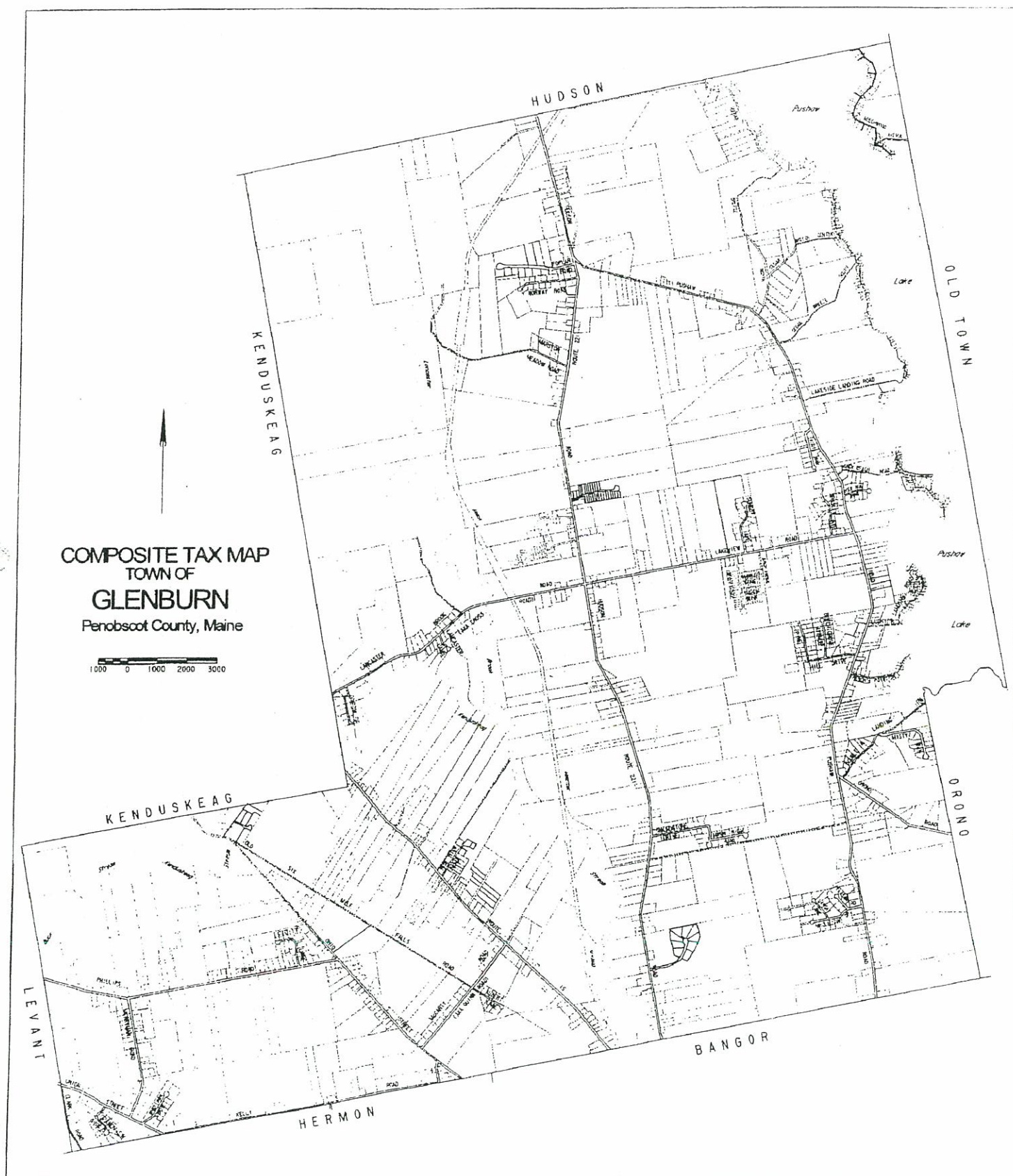
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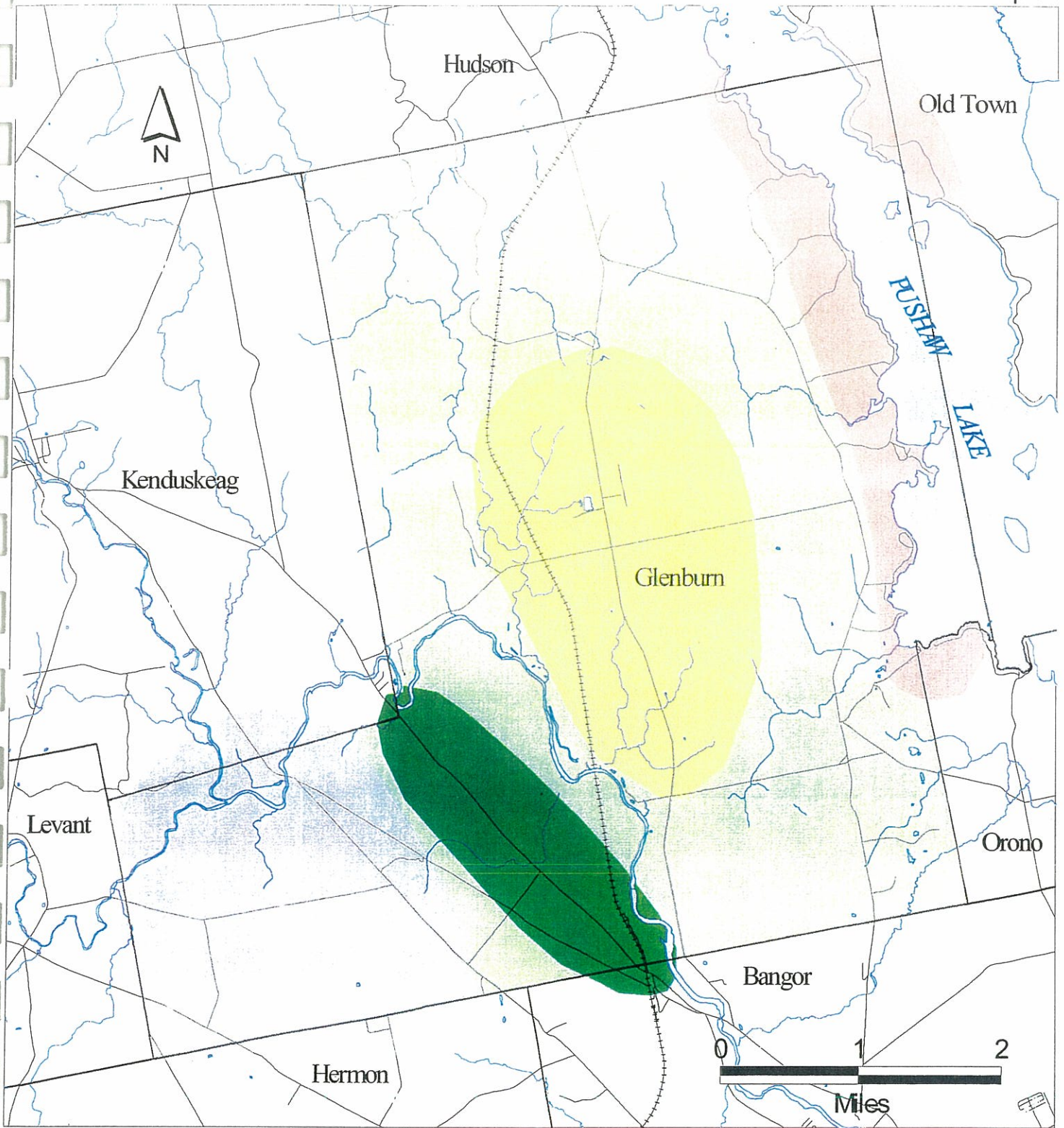
Penobscot County

Transportation



- Town Boundary
- Road
- Railroad
- Stream
- Lake / River
- Annual Average Daily Traffic
- 3440
- 6470
- 1570
- 1570
- 1860
- 2090





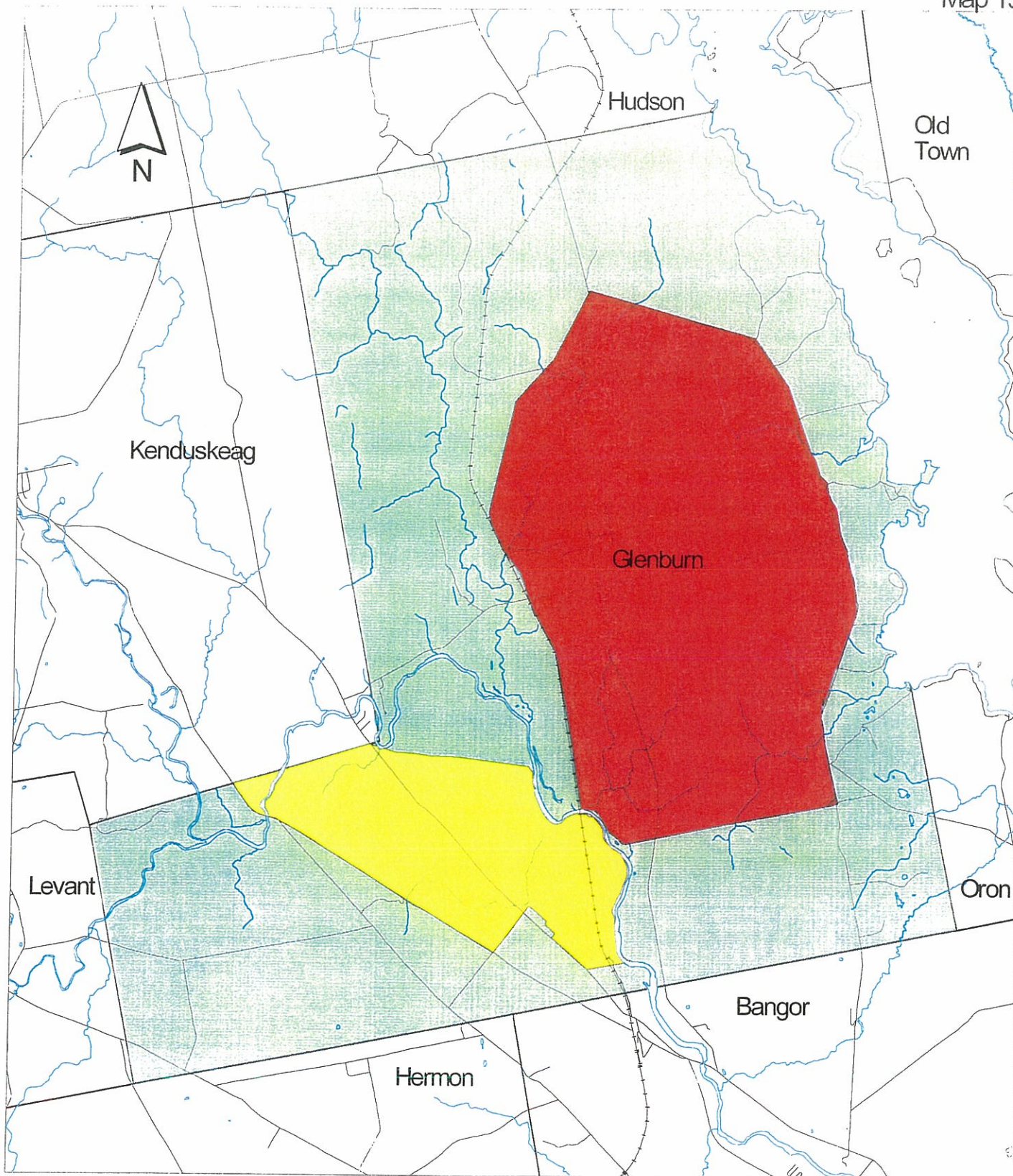
Glenburn

Penobscot County

Existing Land Use



- Town Boundary
- Road
- Railroad
- Stream
- Lake / River
- Glenburn Center
- Broadway Economic Corridor
- Pushaw Lake
- West Glenburn
- Rural



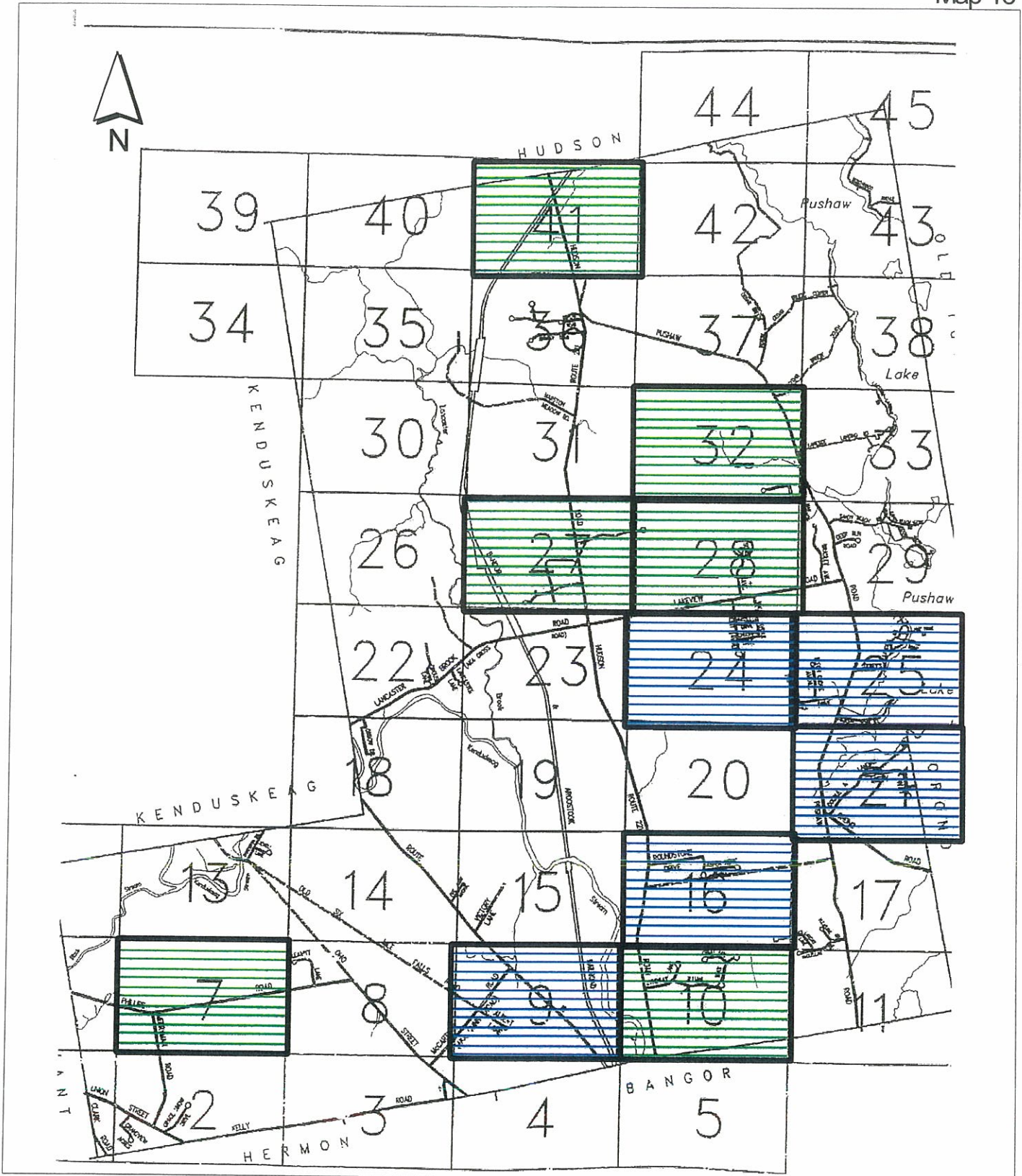
Glenburn

Penobscot County

Proposed Land Use



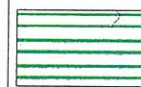
| | |
|--|---------------------|
| | Road |
| | Railroad |
| | Stream |
| | Lake/River |
| | Lake/River |
| | Growth District |
| | Business/Commercial |
| | Town Boundary |



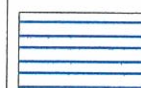
Glenburn

Penobscot County

Building Permits



20+ permits



15- 19 permits

Source; Soil Potential Ratings for LDD in Penobscot County Soil & Water Conservation Distr

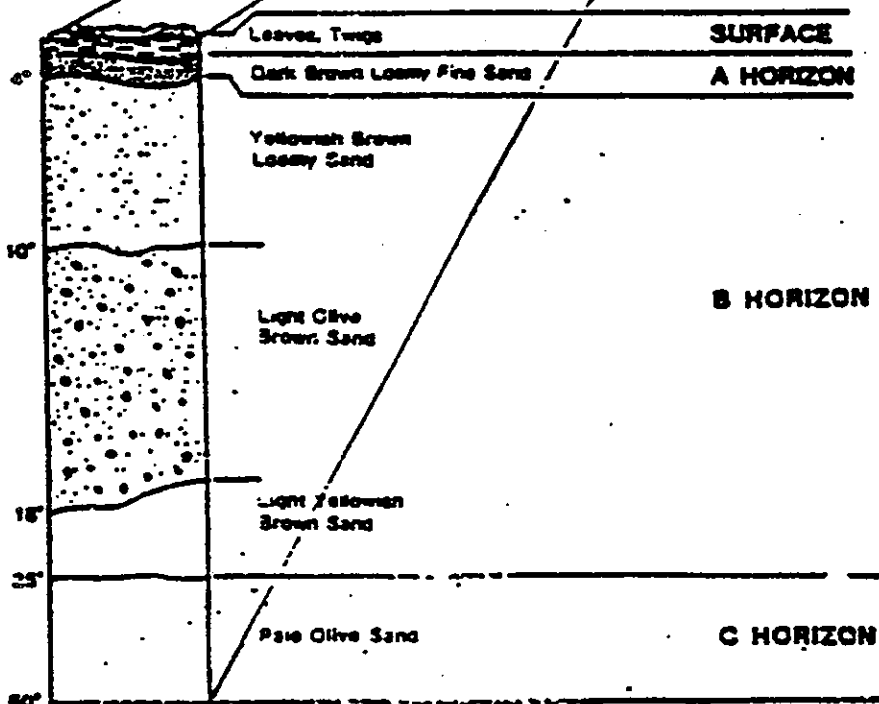
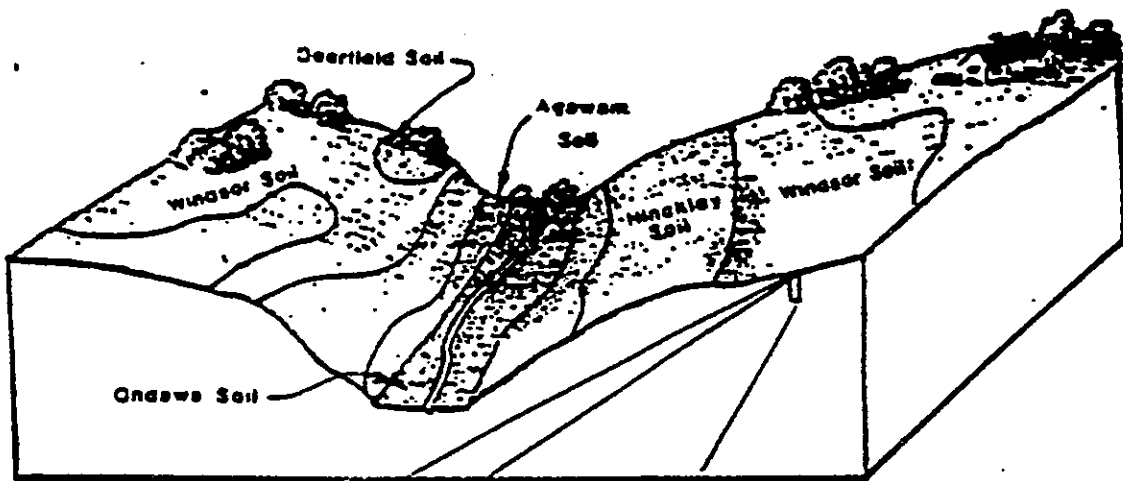
United States
Department of
Agriculture

Soil
Conservation
Service

ORONO, MAINE



SOIL SURVEY DATA for GROWTH MANAGEMENT in Penobscot County, Maine



INTRODUCTION

Maine's new growth management legislation has put many demands on towns and local planners. They are being forced to become knowledgeable in many areas. This publication provides: an introduction to using soil survey information as a planning tool; a listing of soil types grouped according to their suitabilities, limitations and potentials for numerous uses; and addresses and phone numbers for further information.

Soil Surveys are developed through extensive field work and usually represent the most detailed mapping of the landscape that is widely available. As such, they are often the most useful information available. It is important to use soil information in conjunction with resource data from other sources. However, Soil Surveys can be a valuable aid to towns in preparing comprehensive plans. Soil Survey information can aid in addressing goals 1, 5, 6 and 8 of the following 10 goals that are required by the Comprehensive Planning and Land Use Regulation Act of 1988. 1/

- *1. Orderly growth and development in appropriate areas...while protecting the State's rural character, making efficient use of public services and preventing development sprawl.
2. Finance and develop an efficient system of public facilities and services to accommodate anticipated growth.
3. Promote an economic climate which increases opportunities...
4. Promote affordable, decent housing.
- *5. Protect the quality...and quantity of water resources...
- *6. Protect critical natural resources (wetlands, dunes, habitat).
7. Protect marine resources industry, ports and harbors...and promote access to the shore for commercial and public.
- *8. Safeguard agricultural and forest resources.
9. Preserve historical and archaeological resources.
10. Promote outdoor recreation opportunities.

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All programs and services of the Soil Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

December, 1989

UNDERSTANDING SOIL MAPS 2/

A soil map is a convenient way of showing the location and extent of the kinds of soil of an area.

What can be shown on a soil map depends primarily on its scale. In designing Soil Surveys, the projected use of the survey and the complexity of the soil patterns on the ground largely determine the scale of the soil map. The soil pattern on the ground is fixed—it does not change. What is sketched on a map or aerial photo does not change the soil pattern on the ground. What one can be shown on the soil map is determined by the scale of the map, the skills of the mapper, and the complexity of the soil pattern on the ground.

A soil map should be designed to provide the necessary information and accuracy needed for a particular use. A 1:20,000 (3.17" = 1 mile) soil map does not provide enough information for all uses but it does provide soil information for many planning uses.

If soil information as precise as 0.5 acre is needed, the area should be mapped at 1:7,920 (8" = 1 mile) or larger scale. If 40 acre differences in soil are needed, a soil map at 1:62,500 may suffice.

When using soil maps, remember that scale, accuracy and detail are not the same thing.

Map scale is the relationship between corresponding distance on a map (a piece of paper) and the actual distance on the ground.

Map accuracy is the degree or precision with which map information is obtained, measured, and recorded.

Map detail is the amount of information shown on a map. The more information, the more detailed the map.

Map scale, map accuracy, and map detail are interrelated. Their degree of refinement depends on the objective or purpose for making the Soil Survey map and the complexity of the soils on the ground. A large-scale map is not necessarily more accurate or more detailed than a small-scale map. Generally, a large-scale map can and does show more detail than a small-scale map. Soil Survey maps are made by field investigation methods. The accuracy of the maps is determined largely by the complexity of the soils and the skills of the mapper. In the United States, the National Cooperative Soil Survey makes five kinds of Soil Survey maps, designated Orders 1 through 5. Order 1 maps provide the most detail (or information) and Order 5 the least detail. Order

scale, more detail could be shown. Soil Survey maps at 1:20,000 scale "blown up" to 1:12,000 are no more accurate or detailed than the original 1:20,000 map.

Many times the information on soil maps is transferred to other base maps, often at different scales. This diminishes the new map's accuracy, especially if the base map is not planimetrically correct.

It is common practice to use soil maps as a basis for making soil interpretation maps for a specific use. Technically, these maps are not "soil maps" but are single purpose "soil use potential" maps. These maps are generally colored, or some other scheme is used to combine like soils for a given use. These maps are very useful to planners when making decisions for land use. They have the same credibility and limitation of the soil maps from which they are made. In addition, it must be borne in mind that soil interpretation maps are made on the basis of soil properties which affect that particular use. They do not take into account such things as present land use, size of area, location, markets, roads, water bodies, accessibility; and other esthetic, and environmental factors not tied directly to soil properties. These non-soil factors also affect the use and potential of a parcel land.

It is important to recognize the different kinds of soil maps, to know their merits and limitations and to understand the relationship of map scale, map accuracy, and map detail. With these principles in mind, a soil map can be a useful tool for the planner.

SOURCE OF SOIL MAPS

Soil Survey maps can be obtained from the Soil Conservation Service (SCS) or the local Soil and Water Conservation District office. A list of offices is at the end of this publication.

The only soils rated in this publication are the soils listed in the County Soil Survey Report. It is possible that a high intensity soil survey would identify other kinds of soils. Contact the local SCS or district office for assistance interpreting these soils.

2 and Order 3 Soil Surveys are generally available from the Soil Conservation Service (SCS) in Maine.

Order 2 Soil Survey maps are generally at a scale of 1:15,840, 1:20,000 or 1:24,000. At these scales the minimum size delineation is 2.5 or 5.1 acres respectively. Order 2 soil survey maps are made for purposes that require soil resource information for planning use of farming, forestry, urban development and other land areas that require intensive management. The soils in each delineation are identified by transecting and traversing by a soil scientist. Soil boundaries are plotted by observation and interpretation of aerial photos; these boundaries are verified at closely spaced intervals. Small areas of unlike soils are shown by defined spot symbols.

Order 3 Soil Survey maps are generally at a scale of 1:24,000 or 1:62,500. At these scales the minimum size delineation is 5.7 or 40 acres respectively. These soil maps are useful for planning: soil resources of large forested tracts, watersheds, wildlife refuges, counties, towns and other land areas that have projected extensive land uses such as woodland, county, and multi-county planning. The soils in each delineation are identified by transecting, traversing, and some field investigations. Boundaries are plotted by observation and interpretation of remotely sensed data (aerial photos mostly) and verified with some field observations.

Soil maps can be very useful tools in planning the use or development of a tract of land. Soil maps, however, must be used within the purposes for which they were designed.

A generalized soil map of a state at 1:750,000 scale should not be used to locate soils or soil suitability of individual fields or house lots. It is useful for planning the broad use of a state's soil resources. A 1:20,000 soil survey map is useful for planning fields, farms, and communities. It is not useful for planning 0.1 acre research plots.

In many places the pattern of soils is very complex, and in some places soils grade imperceptibly to other soils. Because of this, the soil units, even on a large-scale soil survey map, may not be absolutely homogenous or pure; thus on-site investigations are needed for specific small land area uses. For example, on-site investigations are needed to determine the suitability of a 0.1 acre plot for a septic tank installation for mapping units on Order 2 soil survey maps.

A common practice using soil maps is to "blow them up" to a larger scale. This does not result in a more detailed or accurate map. In fact, the "blown up" map is misleading because if the mapping was made at the larger ("blown up")

SOIL SURVEY LEGEND, ACREAGE AND PROPORTIONAL EXTENT OF THE SOILS

This legend is a listing of all soil map units mapped in the county. In the left hand column are the soil symbols as they appear in the soil survey report. The first two letters of the symbol identify the kind of soil in a delineation. The last letter in the symbol indicates the slope of the map unit. The soil map unit name is given for each map symbol. A detailed description for each soil map unit is given in the county Soil Survey Report.

The acres and proportionate extent of each map unit are also given.

SOIL SURVEY LEGEND AND ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS FOR PENOBSCOT COUNTY, MAINE

| Map Symbol | Soil Map Unit Name | Acres | Percent |
|---------------|--|-------|---------|
| AaB | ADAMS LOAMY SAND, 0 TO 8 PERCENT SLOPES | 6324 | 0.3 |
| AaC | ADAMS LOAMY SAND, 8 TO 15 PERCENT SLOPES | 1610 | 0.1 |
| AaE | ADAMS LOAMY SAND, 15 TO 45 PERCENT SLOPES | 474 | 0.0 |
| AgA | ALLAGASH FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES | 94 | 0.0 |
| AgB | ALLAGASH FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 1978 | 0.1 |
| AgC | ALLAGASH FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 533 | 0.0 |
| AgD | ALLAGASH FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES | 210 | 0.0 |
| BaA | BANGOR SILT LOAM, 0 TO 2 PERCENT SLOPES | 959 | 0.0 |
| BaB | BANGOR SILT LOAM, 2 TO 8 PERCENT SLOPES | 14786 | 0.7 |
| BaC | BANGOR SILT LOAM, 8 TO 15 PERCENT SLOPES | 3511 | 0.1 |
| BaD | BANGOR SILT LOAM, 15 TO 25 PERCENT SLOPES | 190 | 0.0 |
| BaB | BANGOR SILT LOAM, MODERATELY DEEP, 2 TO 8 PERCENT SLOPES | 35187 | 1.6 |
| BaC | BANGOR SILT LOAM, MODERATELY DEEP, 8 TO 15 PERCENT SLOPES | 8889 | 0.4 |
| BaD | BANGOR SILT LOAM, MODERATELY DEEP, 15 TO 35 PERCENT SLOPES | 1861 | 0.1 |
| BnB | BANGOR VERY STONY SILT LOAM, 0 TO 8 PERCENT SLOPES | 94132 | 4.1 |
| BnC | BANGOR VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 35421 | 1.6 |
| BnD | BANGOR VERY STONY SILT LOAM, 15 TO 25 PERCENT SLOPES | 884 | 0.0 |
| BoA | BIDDEFORD SILT LOAM, 0 TO 3 PERCENT SLOPES | 61812 | 2.7 |
| BrA | BURNHAM SILT LOAM, 0 TO 3 PERCENT SLOPES | 1651 | 0.1 |
| BuA | BUXTON SILT LOAM, 0 TO 2 PERCENT SLOPES | 7084 | 0.3 |
| BuB | BUXTON SILT LOAM, 2 TO 8 PERCENT SLOPES | 25530 | 1.1 |
| BuC | BUXTON SILT LOAM, 8 TO 15 PERCENT SLOPES | 1335 | 0.1 |
| BxB | BUXTON, SCANTIC, AND BIDDEFORD STONY SILT LOAMS, 0 TO 8 PERCENT SLOPES | 47029 | 2.1 |
| CaC | CANAAN EXTREMELY ROCKY SANDY LOAM, 5 TO 15 PERCENT SLOPES | 19898 | 0.9 |
| CaE | CANAAN EXTREMELY ROCKY SANDY LOAM, 15 TO 45 PERCENT SLOPES | 27210 | 1.2 |
| CcB | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 0 TO 8 PERCENT SLOPES | 2061 | 0.1 |
| CcC | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 8 TO 15 PERCENT SLOPES | 5640 | 0.3 |
| CcD | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 15 TO 25 PERCENT SLOPES | 479 | 0.0 |
| CcE | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES | 736 | 0.0 |

SOIL SURVEY LEGEND AND ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS
FOR PENOBSCOT COUNTY, MAINE (Continued)

| Map Symbol | Soil Map Unit Name | Acres | Percent |
|---------------|---|--------|---------|
| CnA | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 0 TO 2 PERCENT SLOPES | 95 | 0.0 |
| CnB | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 2 TO 8 PERCENT SLOPES | 12788 | 0.6 |
| CnC | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 8 TO 15 PERCENT SLOPES | 8374 | 0.4 |
| CnD | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS 15 TO 25 PERCENT SLOPES | 2484 | 0.1 |
| CnE | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES | 1242 | 0.1 |
| CsA | COLTON LOAMY FINE SAND, DARK MATERIALS, 0 TO 2 PERCENT SLOPES | 322 | 0.0 |
| CsB | COLTON LOAMY FINE SAND, DARK MATERIALS, 2 TO 8 PERCENT SLOPES | 3635 | 0.2 |
| CsC | COLTON LOAMY FINE SAND, DARK MATERIALS, 8 TO 15 PERCENT SLOPES | 140 | 0.0 |
| CsD | COLTON LOAMY FINE SAND, DARK MATERIALS, 15 TO 25 PERCENT SLOPES | 84 | 0.0 |
| DaA | DAIGLE SILT LOAM, 0 TO 2 PERCENT SLOPES | 288 | 0.0 |
| DaB | DAIGLE SILT LOAM, 2 TO 8 PERCENT SLOPES | 1889 | 0.1 |
| DaC | DAIGLE SILT LOAM, 8 TO 15 PERCENT SLOPES | 344 | 0.0 |
| DgA | DAIGLE STONY SILT LOAM, 0 TO 2 PERCENT SLOPES | 59 | 0.0 |
| DgB | DAIGLE STONY SILT LOAM, 2 TO 8 PERCENT SLOPES | 1904 | 0.1 |
| DgC | DAIGLE STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 203 | 0.0 |
| DxA | DIXMONT SILT LOAM, 0 TO 2 PERCENT SLOPES | 4199 | 0.2 |
| DxB | DIXMONT SILT LOAM, 2 TO 8 PERCENT SLOPES | 28263 | 1.2 |
| DxC | DIXMONT SILT LOAM, 8 TO 15 PERCENT SLOPES | 624 | 0.0 |
| DyA | DIXMONT VERY STONY SILT LOAM, 0 TO 2 PERCENT SLOPES | 1827 | 0.1 |
| DyB | DIXMONT VERY STONY SILT LOAM, 2 TO 8 PERCENT SLOPES | 83624 | 3.7 |
| DyC | DIXMONT VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 5893 | 0.2 |
| EWB | ELMWOOD FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES | 3789 | 0.2 |
| Ha | HADLEY SILT LOAM | 344 | 0.0 |
| HbB | HERMON SANDY LOAM, 2 TO 8 PERCENT SLOPES | 512 | 0.0 |
| HbC | HERMON SANDY LOAM, 8 TO 15 PERCENT SLOPES | 364 | 0.0 |
| HdB | HERMON SANDY LOAM, MODERATELY DEEP, 2 TO 8 PERCENT SLOPES | 228 | 0.0 |
| HdC | HERMON SANDY LOAM, MODERATELY DEEP, 8 TO 15 PERCENT SLOPES | 153 | 0.0 |
| HeB | HERMON VERY STONY SANDY LOAM, 2 TO 8 PERCENT SLOPES | 1334 | 0.1 |
| HeC | HERMON VERY STONY SANDY LOAM, 8 TO 15 PERCENT SLOPES | 4033 | 0.2 |
| HeE | HERMON VERY STONY SANDY LOAM, 15 TO 45 PERCENT SLOPES | 192 | 0.0 |
| HhC | HERMON EXTREMELY STONY SANDY LOAM, 5 TO 15 PERCENT SLOPES | 31369 | 1.4 |
| HoB | HOWLAND GRAVELLY LOAM, 0 TO 8 PERCENT SLOPES | 7231 | 0.3 |
| HoC | HOWLAND GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES | 184 | 0.0 |
| HvB | HOWLAND VERY STONY LOAM, 0 TO 8 PERCENT SLOPES | 160830 | 7.1 |
| HvC | HOWLAND VERY STONY LOAM, 8 TO 15 PERCENT SLOPES | 40244 | 1.8 |
| HuD | HOWLAND VERY STONY LOAM, 15 TO 25 PERCENT SLOPES | 695 | 0.0 |
| Lk | LINERICK SILT LOAM | 14028 | 0.6 |
| MaB | MACHIAS FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES | 20361 | 0.9 |
| MbB | MADAWASKA VERY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES | 3681 | 0.2 |
| Md | MADE LAND | 486 | 0.0 |
| MeA | MELROSE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES | 76 | 0.0 |
| MeB | MELROSE FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 644 | 0.0 |
| MeC | MELROSE FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 552 | 0.0 |

SOIL SURVEY LEGEND AND ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS
FOR PENOBSCOT COUNTY, MAINE (Continued)

| Symbol | Soil Map Unit Name | Acres | Percent |
|--------|--|--------|---------|
| An | MIXED ALLUVIAL LAND | 6431 | 0.3 |
| MoB | MONARDA SILT LOAM, 0 TO 8 PERCENT SLOPES | 6939 | 0.3 |
| rB | MONARDA AND BURNHAM VERY STONY SILT LOAMS, 0 TO 8 PERCENT SLOPES | 353451 | 15.5 |
| isC | MONARDA AND BURNHAM EXTREMELY STONY SILT LOAMS, 0 TO 15 PERCENT SLOPES | 74945 | 3.3 |
| Mu | MUCK | 21872 | 1.0 |
| On | ONDANA FINE SANDY LOAM | 1114 | 0.1 |
| Pa | PEAT AND MUCK | 29988 | 1.3 |
| Pc | PEAT, COARSELY FIBROUS | 1379 | 0.1 |
| Pf | PEAT, MODERATELY FIBROUS | 21516 | 0.9 |
| PgB | PLAISTED GRAVELLY LOAM, 2 TO 8 PERCENT SLOPES | 6396 | 0.3 |
| PgC | PLAISTED GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES | 5086 | 0.2 |
| PgD | PLAISTED GRAVELLY LOAM, 15 TO 25 PERCENT SLOPES | 2371 | 0.1 |
| PgE | PLAISTED GRAVELLY LOAM, 25 TO 45 PERCENT SLOPES | 198 | 0.0 |
| PhB | PERHAM SILT LOAM, 0 TO 8 PERCENT SLOPES | 3046 | 0.1 |
| PhC | PERHAM SILT LOAM, 8 TO 15 PERCENT SLOPES | 399 | 0.0 |
| PrB | PERHAM STONY SILT LOAM, 0 TO 8 PERCENT SLOPES | 914 | 0.0 |
| PrC | PERHAM STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 329 | 0.0 |
| PrE | PLAISTED VERY STONY LOAM, 5 TO 15 PERCENT SLOPES | 25038 | 11.0 |
| PrE | PLAISTED VERY STONY LOAM, 15 TO 45 PERCENT SLOPES | 55029 | 2.4 |
| Ps | PEAT, SPHAGNUM | 110 | 0.0 |
| PxC | PLAISTED EXTREMELY STONY LOAM, 5 TO 15 PERCENT SLOPES | 12903 | 0.6 |
| Py | PODUNK FINE SANDY LOAM | 2291 | 0.1 |
| RaB | RED HOOK AND ATHERTON SILT LOAMS, 0 TO 8 PERCENT SLOPES | 4049 | 0.2 |
| RdB | RED HOOK AND ATHERTON FINE SANDY LOAMS, 0 TO 8 PERCENT SLOPES | 11056 | 0.5 |
| Re | RIVERWASH | 2754 | 0.1 |
| RKC | ROCKLAND, CANAAN MATERIAL, SLOPING | 428 | 0.0 |
| RKD | ROCKLAND, CANAAN MATERIAL, STRONGLY SLOPING | 11500 | 0.5 |
| RnC | ROCKLAND, THORNDIKE MATERIAL, SLOPING | 16606 | 0.7 |
| RnD | ROCKLAND, THORNDIKE MATERIAL, STRONGLY SLOPING | 29247 | 1.3 |
| Ro | ROCK OUTCROP | 4868 | 0.2 |
| Sa | SACO SILT LOAM | 16719 | 0.7 |
| ScB | SCANTIC SILT LOAM, 0 TO 8 PERCENT SLOPES | 46628 | 2.0 |
| SeA | STETSON FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES | 700 | 0.0 |
| SeB | STETSON FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 9875 | 0.4 |
| SeC | STETSON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 2712 | 0.1 |
| SeD | STETSON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES | 1072 | 0.1 |
| SfC | STETSON-SUFFIELD COMPLEX, 0 TO 15 PERCENT SLOPES | 5421 | 0.2 |
| SfE | STETSON-SUFFIELD COMPLEX, 15 TO 45 PERCENT SLOPES | 1053 | 0.1 |
| ShD | STONY LAND, HERMON MATERIAL, STRONGLY SLOPING | 13364 | 0.6 |
| SpD | STONY LAND, PLAISTED MATERIAL, STRONGLY SLOPING | 7092 | 0.3 |
| SuA | SUFFIELD SILT LOAM, 0 TO 2 PERCENT SLOPES | 92 | 0.0 |
| SuB | SUFFIELD SILT LOAM, 2 TO 8 PERCENT SLOPES | 9440 | 0.4 |
| SuC | SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES | 1564 | 0.1 |
| SuC2 | SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES, ERODED | 1426 | 0.1 |

SOIL SURVEY LEGEND AND ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS
FOR PENOBSCOT COUNTY, MAINE (Continued)

| Map Symbol | Soil Map Unit Name | Acres | Percent |
|---------------|--|---------|---------|
| SuD | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES | 966 | 0.0 |
| SuD2 | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES, ERODED | 1656 | 0.1 |
| SuE | SUFFIELD SILT LOAM, 25 TO 45 PERCENT SLOPES | 284 | 0.0 |
| SuA | SUFFIELD VERY FINE SANDY LOAM, 0 TO 2 PERCENT | 31 | 0.0 |
| SuB | SUFFIELD VERY FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 3129 | 0.1 |
| SuC | SUFFIELD VERY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 1917 | 0.1 |
| SuD | SUFFIELD VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES | 201 | 0.0 |
| ThB | THORNDIKE SHALY SILT LOAM, 2 TO 8 PERCENT SLOPES | 26541 | 1.2 |
| ThC | THORNDIKE SHALY SILT LOAM, 8 TO 15 PERCENT SLOPES | 16608 | 0.7 |
| ThD | THORNDIKE SHALY SILT LOAM, 15 TO 25 PERCENT SLOPES | 1575 | 0.1 |
| ThE | THORNDIKE SHALY SILT LOAM, 25 TO 45 PERCENT SLOPES | 219 | 0.0 |
| TkB | THORNDIKE VERY ROCKY SILT LOAM, 2 TO 8 PERCENT SLOPES | 25138 | 1.1 |
| TkC | THORNDIKE VERY ROCKY SILT LOAM, 8 TO 15 PERCENT SLOPES | 55971 | 2.5 |
| TuB | THORNDIKE VERY STONY SILT LOAM, 2 TO 8 PERCENT SLOPES | 67880 | 3.0 |
| TuC | THORNDIKE VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 47418 | 2.1 |
| TuD | THORNDIKE VERY STONY SILT LOAM, 15 TO 35 PERCENT SLOPES | 4285 | 0.2 |
| W | SHALL BODIES OF WATER ORDINARILY INCLUDED WITH LAND AREA | 14045 | 0.6 |
| Wn | WINOOSKI SILT LOAM | 4216 | 0.2 |
| | Water bodies greater than 40 acres in size | 94,170 | 4.2 |
| TOTAL | | 2275290 | 100.0 |

(0.0 percent is less than 0.1 percent)

PRIME FARMLAND

Development threatens the irreversible conversion of farm land to other uses. Recognizing that land use cannot remain static and our state is becoming more urban, it seems reasonable that conversion of agricultural land should be based on the quality of our soils. Soils can be rated in terms of their ability to grow agricultural crops. Obviously some soils in Maine are much more valuable for agriculture than others.

Prime Farmland is one of several kinds of important farmlands defined by the U.S. Department of Agriculture. Identification of prime farmland is a major step in meeting the Nation's needs for food and fiber.

The U.S. Department of Agriculture defines prime farmland as the land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply needed to produce a sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and requires minimal amounts of energy and economic resources, and owning it results in the least damage to the environment. 3/ Prime Farmland is a limited strategic resource. No more of it is being created. The soils listed are considered prime.

PRIME FARMLAND SOILS IN PENOBSCOT COUNTY, MAINE

| Map Symbol | Prime Farmland Code | Soil Map Unit Name |
|---------------|---------------------------|--|
| AaB | 4 | ADAMS LOAMY SAND, 0 TO 8 PERCENT SLOPES |
| AgA | 1 | ALLAGASH FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| AgB | 1 | ALLAGASH FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| BaA | 1 | BANGOR SILT LOAM, 0 TO 2 PERCENT SLOPES |
| BaB | 1 | BANGOR SILT LOAM, 2 TO 8 PERCENT SLOPES |
| BmB | 1 | BANGOR SILT LOAM, MODERATELY DEEP, 2 TO 8 PERCENT SLOPES |
| BuB | 1 | BUXTON SILT LOAM, 2 TO 8 PERCENT SLOPES |

PRIME FARMLAND SOILS IN PENOBSCOT COUNTY, MAINE (CONTINUED)

| Map Symbol | Prime Farmland Code | Soil Map Unit Name |
|---------------|---------------------------|--|
| CnA | 4 | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 0 TO 2 PERCENT SLOPES |
| CnB | 4 | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 2 TO 8 PERCENT SLOPES |
| CsA | 4 | COLTON LOAMY FINE SAND, DARK MATERIALS, 0 TO 2 PERCENT SLOPES |
| DaA | 2 | DAIGLE SILT LOAM, 0 TO 2 PERCENT SLOPES |
| DaB | 1 | DAIGLE SILT LOAM, 2 TO 8 PERCENT SLOPES |
| DxA | 1 | DIXMONT SILT LOAM, 0 TO 2 PERCENT SLOPES |
| DxB | 1 | DIXMONT SILT LOAM, 2 TO 8 PERCENT SLOPES |
| EwB | 1 | ELMWOOD FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES |
| Ha | 1 | HADLEY SILT LOAM |
| HbB | 4 | HERMON SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| HoB | 1 | HOWLAND GRAVELLY LOAM, 0 TO 8 PERCENT SLOPES |
| Lk | 5 | LIMERICK SILT LOAM |
| MaB | 1 | MACHIAS FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES |
| MbB | 1 | MADAWASKA VERY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES |
| MeA | 1 | MELROSE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| MeB | 1 | MELROSE FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| On | 1 | ONDAWA FINE SANDY LOAM |
| PgB | 1 | PLAISTED GRAVELLY LOAM, 2 TO 8 PERCENT SLOPES |
| PhB | 1 | PERHAM SILT LOAM, 0 TO 8 PERCENT SLOPES |
| Py | 1 | PODUNK FINE SANDY LOAM |
| RaB | 2 | RED HOOK AND ATHERTON SILT LOAMS, 0 TO 8 PERCENT SLOPES |
| RdB | 2 | RED HOOK AND ATHERTON FINE SANDY LOAMS, 0 TO 8 PERCENT SLOPES |
| SeA | 1 | STETSON FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| SeB | 1 | STETSON FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| SuB | 1 | SUFFIELD SILT LOAM, 2 TO 8 PERCENT SLOPES |
| SvB | 1 | SUFFIELD VERY FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| ThB | 4 | THORNDIKE SHALY SILT LOAM, 2 TO 8 PERCENT SLOPES |
| Wn | 1 | WINOOSKI SILT LOAM |

Prime Farmland Code Description

- 1 All areas are prime farmland.
- 2 Only drained areas are Prime Farmland.
- 4 Only irrigated areas are Prime Farmland.
- 5 Only drained areas that are either protected from flooding or not frequently flooded during the growing season are prime farmland.

WOODLAND PRODUCTIVITY

The following is a list of soils rated by woodland productivity. Soils with a rating of medium, high or very high are prime forestland soils.

Prime forestland is land that has soil capable of growing wood at the economic productive growth rate for a given tree species. Identification of lands as prime forestland does not denote a single or dominant use. This designation does not preclude the use of these lands for other forest products and services, but only identifies the most productive forestlands on which a town depends for present and future wood needs. ^{4/} Soils are rated only for productivity; management problems such as erosion hazard, equipment limitations or seedling mortality are not addressed.

The indicator species used to develop these tables was eastern white pine.

For map units with more than one soil, the rating listed is for the first named soil. For example, for the map unit SfC, Stetson-Suffield complex, 0-15% slopes, the woodland productivity rating would be for the Stetson soil only. The rating may differ widely for other soils in the map unit.

Productivity Class is based on the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands as given in standard normal yield tables.

Source of the Productivity Classes used in these tables is the area Woodland Management and Productivity Table, Penobscot County Soil Survey ^{11/} and Subpart C - Ordination System, National Forestry manual.

Woodland Productivity Rating For Penobscot County, Maine

| Map Symbol | Soil Map Unit Name | Prod. Class | Prod. Rating |
|---------------|--|----------------|-----------------|
| AaB | ADAMS LOAMY SAND, 0 TO 8 PERCENT SLOPES | 8 | High |
| AaC | ADAMS LOAMY SAND, 8 TO 15 PERCENT SLOPES | 8 | High |
| AaE | ADAMS LOAMY SAND, 15 TO 45 PERCENT SLOPES | 8 | High |
| AgA | ALLAGASH FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES | 9 | Very High |
| AgB | ALLAGASH FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 9 | Very High |
| AgC | ALLAGASH FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 9 | Very High |
| AgD | ALLAGASH FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES | 10 | Very High |
| BaA | BANGOR SILT LOAM, 0 TO 2 PERCENT SLOPES | 10 | Very High |
| BaB | BANGOR SILT LOAM, 2 TO 8 PERCENT SLOPES | 10 | Very High |
| BaC | BANGOR SILT LOAM, 8 TO 15 PERCENT SLOPES | 10 | Very High |
| BaD | BANGOR SILT LOAM, 15 TO 25 PERCENT SLOPES | 10 | Very High |
| BnB | BANGOR SILT LOAM, MODERATELY DEEP, 2 TO 8 PERCENT SLOPES | 8 | High |
| BnC | BANGOR SILT LOAM, MODERATELY DEEP, 8 TO 15 PERCENT SLOPES | 8 | High |
| BnD | BANGOR SILT LOAM, MODERATELY DEEP, 15 TO 35 PERCENT SLOPES | 8 | High |
| BnB | BANGOR VERY STONY SILT LOAM, 0 TO 8 PERCENT SLOPES | 10 | Very High |
| BnC | BANGOR VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 10 | Very High |
| BnD | BANGOR VERY STONY SILT LOAM, 15 TO 25 PERCENT SLOPES | 10 | Very High |
| BoA | BIDDEFORD SILT LOAM, 0 TO 3 PERCENT SLOPES | 5 | Very low |
| Bra | BURNHAM SILT LOAM, 0 TO 3 PERCENT SLOPES | 4 | Very low |
| BuA | BUXTON SILT LOAM, 0 TO 2 PERCENT SLOPES | 8 | High |
| BuB | BUXTON SILT LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| BuC | BUXTON SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| BxB | BUXTON, SCANTIC, AND BIDDEFORD STONY SILT LOAMS, 0 TO 8 PERCENT SLOPES | 8 | High |
| CaC | CANAAN EXTREMELY ROCKY SANDY LOAM, 5 TO 15 PERCENT SLOPES | 6 | Low |
| CaE | CANAAN EXTREMELY ROCKY SANDY LOAM, 15 TO 45 PERCENT SLOPES | 6 | Low |
| CcB | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 0 TO 8 PERCENT SLOPES | 7 | Median |
| CcC | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 8 TO 15 PERCENT SLOPES | 7 | Median |
| CcD | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 15 TO 25 PERCENT SLOPES | 7 | Median |
| CcE | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES | 7 | Median |
| CnA | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 0 TO 2 PERCENT SLOPES | 7 | Median |
| CnB | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 2 TO 8 PERCENT SLOPES | 7 | Median |
| CnC | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 8 TO 15 PERCENT SLOPES | 7 | Median |
| CnD | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS 15 TO 25 PERCENT SLOPES | 7 | Median |
| CnE | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES | 7 | Median |
| CsA | COLTON LOAMY FINE SAND, DARK MATERIALS, 0 TO 2 PERCENT SLOPES | 7 | Median |
| CsB | COLTON LOAMY FINE SAND, DARK MATERIALS, 2 TO 8 PERCENT SLOPES | 7 | Median |
| CsC | COLTON LOAMY FINE SAND, DARK MATERIALS, 8 TO 15 PERCENT SLOPES | 7 | Median |
| CsD | COLTON LOAMY FINE SAND, DARK MATERIALS, 15 TO 25 PERCENT SLOPES | 7 | Median |
| DaA | DAIGLE SILT LOAM, 0 TO 2 PERCENT SLOPES | 7 | Median |
| DaB | DAIGLE SILT LOAM, 2 TO 8 PERCENT SLOPES | 7 | Median |
| DaC | DAIGLE SILT LOAM, 8 TO 15 PERCENT SLOPES | 7 | Median |
| DgA | DAIGLE STONY SILT LOAM, 0 TO 2 PERCENT SLOPES | 7 | Median |
| DgB | DAIGLE STONY SILT LOAM, 2 TO 8 PERCENT SLOPES | 7 | Median |
| DgC | DAIGLE STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 7 | Median |

Woodland Productivity Rating For Penobscot County, Maine (Continued)

| Symbol | Soil Map Unit Name | Prod. Class | Prod. Rating |
|--------|--|----------------|-----------------|
| DxA | DIXMONT SILT LOAM, 0 TO 2 PERCENT SLOPES | 10 | Very High |
| DxB | DIXMONT SILT LOAM, 2 TO 8 PERCENT SLOPES | 10 | Very High |
| DxC | DIXMONT SILT LOAM, 8 TO 15 PERCENT SLOPES | 10 | Very High |
| DyA | DIXMONT VERY STONY SILT LOAM, 0 TO 2 PERCENT SLOPES | 10 | Very High |
| DyB | DIXMONT VERY STONY SILT LOAM, 2 TO 8 PERCENT SLOPES | 10 | Very High |
| DyC | DIXMONT VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 10 | Very High |
| EWB | ELMWOOD FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| Ha | HADLEY SILT LOAM | 9 | Very High |
| HbB | HERMON SANDY LOAM, 2 TO 8 PERCENT SLOPES | 7 | Medium |
| HbC | HERMON SANDY LOAM, 8 TO 15 PERCENT SLOPES | 7 | Medium |
| HdB | HERMON SANDY LOAM, MODERATELY DEEP, 2 TO 8 PERCENT SLOPES | 7 | Medium |
| HdC | HERMON SANDY LOAM, MODERATELY DEEP, 8 TO 15 PERCENT SLOPES | 7 | Medium |
| HeB | HERMON VERY STONY SANDY LOAM, 2 TO 8 PERCENT SLOPES | 7 | Medium |
| HeC | HERMON VERY STONY SANDY LOAM, 8 TO 15 PERCENT SLOPES | 7 | Medium |
| HeE | HERMON VERY STONY SANDY LOAM, 15 TO 45 PERCENT SLOPES | 7 | Medium |
| HC | HERMON EXTREMELY STONY SANDY LOAM, 5 TO 15 PERCENT SLOPES | 7 | Medium |
| HoA | HOWLAND GRAVELLY LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| HoC | HOWLAND GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| HvB | HOWLAND VERY STONY LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| HvC | HOWLAND VERY STONY LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| HvD | HOWLAND VERY STONY LOAM, 15 TO 25 PERCENT SLOPES | 8 | High |
| Lk | LINERICK SILT LOAM | 7 | Medium |
| MaB | MACHIAS FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| MdB | MADAWASKA VERY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| MeA | MELROSE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES | 8 | High |
| MeB | MELROSE FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| MeC | MELROSE FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| MoB | MONARDA SILT LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| MrB | MONARDA AND BURNHAM VERY STONY SILT LOAMS, 0 TO 8 PERCENT SLOPES | 8 | High |
| MsC | MONARDA AND BURNHAM EXTREMELY STONY SILT LOAMS, 8 TO 15 PERCENT SLOPES | 8 | High |
| On | ONDAGA FINE SANDY LOAM | 7 | Medium |
| PgB | PLAISTED GRAVELLY LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| PgC | PLAISTED GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| PgD | PLAISTED GRAVELLY LOAM, 15 TO 25 PERCENT SLOPES | 8 | High |
| PgE | PLAISTED GRAVELLY LOAM, 25 TO 45 PERCENT SLOPES | 8 | High |
| PhB | PERHAM SILT LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| PhC | PERHAM SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| PnB | PERHAM STONY SILT LOAM, 0 TO 8 PERCENT SLOPES | 8 | High |
| PnC | PERHAM STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| PrC | PLAISTED VERY STONY LOAM, 5 TO 15 PERCENT SLOPES | 8 | High |
| PrE | PLAISTED VERY STONY LOAM, 15 TO 45 PERCENT SLOPES | 8 | High |
| xC | PLAISTED EXTREMELY STONY LOAM, 5 TO 15 PERCENT SLOPES | 8 | High |
| Py | PODUNK FINE SANDY LOAM | 9 | Very High |
| RaB | RED HOOK AND ATHERTON SILT LOAMS, 0 TO 8 PERCENT SLOPES | 8 | High |

Woodland Productivity Rating For Penobscot County, Maine (Continued)

| Map Symbol | Soil Map Unit Name | Prod. Class | Prod. Rating |
|---------------|---|----------------|-----------------|
| RdB | RED HOOK AND ATHERTON FINE SANDY LOAMS, 0 TO 8 PERCENT SLOPES | 8 | High |
| Sa | SACO SILT LOAM | 6 | Low |
| ScB | SCANTIC SILT LOAM, 0 TO 8 PERCENT SLOPES | 7 | Medium |
| SeA | STETSON FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES | 8 | High |
| SeB | STETSON FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| SeC | STETSON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| SeD | STETSON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES | 8 | High |
| SfC | STETSON-SUFFIELD COMPLEX, 0 TO 15 PERCENT SLOPES | 8 | High |
| SfE | STETSON-SUFFIELD COMPLEX, 15 TO 45 PERCENT SLOPES | 6 | Low |
| ShD | STONY LAND, HERMON MATERIAL, STRONGLY SLOPING | 6 | Low |
| SpD | STONY LAND, PLAISTED MATERIAL, STRONGLY SLOPING | 8 | High |
| SuA | SUFFIELD SILT LOAM, 0 TO 2 PERCENT SLOPES | 8 | High |
| SuB | SUFFIELD SILT LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| SuC | SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| SuC2 | SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES, ERODED | 8 | High |
| SuD | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES | 8 | High |
| SuD2 | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES, ERODED | 8 | High |
| SuE | SUFFIELD SILT LOAM, 25 TO 45 PERCENT SLOPES | 8 | High |
| SvA | SUFFIELD VERY FINE SANDY LOAM, 0 TO 2 PERCENT | 8 | High |
| SvB | SUFFIELD VERY FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| SvC | SUFFIELD VERY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| SvD | SUFFIELD VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES | 8 | High |
| ThB | THORNDIKE SHALY SILT LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| ThC | THORNDIKE SHALY SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| ThD | THORNDIKE SHALY SILT LOAM, 15 TO 25 PERCENT SLOPES | 8 | High |
| ThE | THORNDIKE SHALY SILT LOAM, 25 TO 45 PERCENT SLOPES | 8 | High |
| TkB | THORNDIKE VERY ROCKY SILT LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| TkC | THORNDIKE VERY ROCKY SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| TvB | THORNDIKE VERY STONY SILT LOAM, 2 TO 8 PERCENT SLOPES | 8 | High |
| TvC | THORNDIKE VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES | 8 | High |
| TvD | THORNDIKE VERY STONY SILT LOAM, 15 TO 35 PERCENT SLOPES | 8 | High |
| Wn | WINOOSKI SILT LOAM | 9 | Very High |

Map units that are very rocky or extremely rocky phases may include a high percentage of very shallow soils that rate considerably lower for woodland productivity.

Floodplain Soils

Floodplain soils are soils on low lands adjacent to a great pond, river, stream or brook which are periodically inundated with flood water due to the water body or water course overflowing its banks. Developments located on floodplain soils may be subject to severe damage. Flood damage to buildings and washout of roads are common problems in these flood prone areas. Development on floodplain soils may be restricted by state and local ordinances.

Flood Plain Soils for Penobscot County, Maine

| Map Symbol | Soil Map Unit Name |
|---------------|------------------------|
| Ha | HADLEY SILT LOAM |
| Lk | LIMERICK SILT LOAM |
| Mn | MIXED ALLUVIAL LAND |
| On | ONDAWA FINE SANDY LOAM |
| Py | PODUNK FINE SANDY LOAM |
| Re | RIVERWASH |
| Sa | SACO SILT LOAM |
| Wn | WINOOSKI SILT LOAM |

Highly Erodible Soils

When surface vegetation is removed from large areas of land, soil erosion often results. Sediment, the result of erosion, has a number of adverse effects as a pollutant. In suspension it reduces the amount of sunlight available to aquatic plants, covers fish spawning areas and food supplies and clogs gills of fish. Phosphorus moves into receiving waters attached to soil particles. Excessive quantities can cause algae blooms. Sediment fills drainage ditches, road ditches and stream channels and shortens the life of reservoirs.

Highly erodible soils are those soils that have a potential to erode at a rate far greater than what is considered tolerable soil loss. The potential erodibility of a soil takes into consideration a) rainfall and runoff, b) the susceptibility of the soil to erosion and c) the combined effects of slope length and steepness.^{5/} A highly erodible soil has a potential erodibility that would cause a considerable decline in long term productivity of that soil as well as possible negative effects on water quality.

Highly Erodible Soils in Penobscot County, Maine

| Map Symbol | Soil Map Unit Name |
|---------------|--|
| AgD | ALLAGASH FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| BaD | BANGOR SILT LOAM, 15 TO 25 PERCENT SLOPES |
| BmD | BANGOR SILT LOAM, MODERATELY DEEP, 15 TO 35 PERCENT SLOPES |
| BnD | BANGOR VERY STONY SILT LOAM, 15 TO 25 PERCENT SLOPES |
| CaE | CANAAN EXTREMELY ROCKY SANDY LOAM, 15 TO 45 PERCENT SLOPES |
| CcE | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES |
| CnE | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES |
| CsD | COLTON LOAMY FINE SAND, DARK MATERIALS, 15 TO 25 PERCENT SLOPES |
| HvD | HOWLAND VERY STONY LOAM, 15 TO 25 PERCENT SLOPES |
| PgD | PLAISTED GRAVELLY LOAM, 15 TO 25 PERCENT SLOPES |
| PgE | PLAISTED GRAVELLY LOAM, 25 TO 45 PERCENT SLOPES |
| PrE | PLAISTED VERY STONY LOAM, 15 TO 45 PERCENT SLOPES |
| RkD | ROCKLAND, CANAAN MATERIAL, STRONGLY SLOPING |
| RmD | ROCKLAND, THORNDIKE MATERIAL, STRONGLY SLOPING |
| SeD | STETSON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| SfE | STETSON-SUFFIELD COMPLEX, 15 TO 45 PERCENT SLOPES |

Highly Erodible Soils in Penobscot County, Maine (Continued)

| Map Symbol | Soil Map Unit Name |
|---------------|---|
| SuD | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES |
| SuD2 | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES, ERODED |
| SuE | SUFFIELD SILT LOAM, 25 TO 45 PERCENT SLOPES |
| SvD | SUFFIELD VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| ThD | THORNDIKE SHALY SILT LOAM, 15 TO 25 PERCENT SLOPES |
| ThE | THORNDIKE SHALY SILT LOAM, 25 TO 45 PERCENT SLOPES |
| TvD | THORNDIKE VERY STONY SILT LOAM, 15 TO 35 PERCENT SLOPES |

Soils on Steep Slopes

Slope gradient influences the retention and movement of water, potential for slippage and accelerated erosion, ease with which machinery can be used and engineering uses of the soil. Generally, the steeper the slope the more potential hazards exist. Development on slopes greater than 15 percent require more fill and grading as well as more sophisticated sediment and erosion control planning to minimize erosion and protect water quality. On very steep areas the design of buildings, roads and other structures may need to be altered to ensure satisfactory performance.

Map Units With Dominant Slopes of 15 to 25 Percent in Penobscot County, Maine

| Map Symbol | Soil Map Unit Name |
|---------------|--|
| AgD | ALLAGASH FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| BaD | BANGOR SILT LOAM, 15 TO 25 PERCENT SLOPES |
| BmD | BANGOR SILT LOAM, MODERATELY DEEP, 15 TO 35 PERCENT SLOPES |
| BnD | BANGOR VERY STONY SILT LOAM, 15 TO 25 PERCENT SLOPES |
| CcD | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 15 TO 25 PERCENT SLOPES |
| CnD | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS 15 TO 25 PERCENT SLOPES |
| CsD | COLTON LOAMY FINE SAND, DARK MATERIALS, 15 TO 25 PERCENT SLOPES |
| HvD | HOWLAND VERY STONY LOAM, 15 TO 25 PERCENT SLOPES |
| PgD | PLAISTED GRAVELLY LOAM, 15 TO 25 PERCENT SLOPES |
| RkD | ROCKLAND, CANAAN MATERIAL, STRONGLY SLOPING |
| RmD | ROCKLAND, THORNDIKE MATERIAL, STRONGLY SLOPING |
| SeD | STETSON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| ShD | STONY LAND, HERMON MATERIAL, STRONGLY SLOPING |
| SpD | STONY LAND, PLAISTED MATERIAL, STRONGLY SLOPING |
| SuD | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES |
| SuD2 | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES, ERODED |
| SvD | SUFFIELD VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| ThD | THORNDIKE SHALY SILT LOAM, 15 TO 25 PERCENT SLOPES |
| TvD | THORNDIKE VERY STONY SILT LOAM, 15 TO 35 PERCENT SLOPES |

Map Units With Dominant Slopes Greater than 25% in Penobscot
County, Maine

| Map Symbol | Soil Map Unit Name |
|---------------|--|
| AaE | ADAMS LOAMY SAND, 15 TO 45 PERCENT SLOPES |
| CaE | CANAAN EXTREMELY ROCKY SANDY LOAM, 15 TO 45 PERCENT SLOPES |
| CcE | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES |
| CnE | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES |
| HeE | HERMON VERY STONY SANDY LOAM, 15 TO 45 PERCENT SLOPES |
| PgE | PLAISTED GRAVELLY LOAM, 25 TO 45 PERCENT SLOPES |
| PrE | PLAISTED VERY STONY LOAM, 15 TO 45 PERCENT SLOPES |
| SfE | STETSON-SUFFIELD COMPLEX, 15 TO 45 PERCENT SLOPES |
| SuE | SUFFIELD SILT LOAM, 25 TO 45 PERCENT SLOPES |
| ThE | THORNDIKE SHALY SILT LOAM, 25 TO 45 PERCENT SLOPES |

Potential Sand and Gravel Aquifer Soils

Sand and gravel aquifer soils are soils commonly developed in surficial geological formations such as an esker, outwash plain, glaciomarine delta, kame, stratified moraine or other stratified deposits consisting of sand and/or gravel.

These soils and the underlying material may be capable of transmitting sufficient groundwater for domestic purposes. Because of the rapid permeability of these sandy and gravelly soils, pollutants can move quickly through the soil and into the ground water. Contamination of the groundwater is therefore possible if precautions are not taken. Soil maps should be used in conjunction with state groundwater aquifer maps, prepared by the Maine Geological Survey as well as other state publications on groundwater.

Potential Sand and Gravel Aquifer Soils in Penobscot County, Maine

| Map Symbol | Soil Map Unit Name |
|---------------|--------------------|
|---------------|--------------------|

| | |
|-----|---|
| AaB | ADAMS LOAMY SAND, 0 TO 8 PERCENT SLOPES |
| AaC | ADAMS LOAMY SAND, 8 TO 15 PERCENT SLOPES |
| AaE | ADAMS LOAMY SAND, 15 TO 45 PERCENT SLOPES |
| AgA | ALLAGASH FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| AgB | ALLAGASH FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| AgC | ALLAGASH FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES |
| AgD | ALLAGASH FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| CcB | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 0 TO 8 PERCENT SLOPES |
| CcC | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 8 TO 15 PERCENT SLOPES |
| CcD | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 15 TO 25 PERCENT SLOPES |
| CcE | COLTON COBBLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES |
| CnA | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 0 TO 2 PERCENT SLOPES |
| CnB | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 2 TO 8 PERCENT SLOPES |
| CnC | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 8 TO 15 PERCENT SLOPES |
| CnD | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS 15 TO 25 PERCENT SLOPES |
| CnE | COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES |
| CsA | COLTON LOAMY FINE SAND, DARK MATERIALS, 0 TO 2 PERCENT SLOPES |

Potential Sand and Gravel Aquifer Soils in Penobscot County, Maine
(Continued)

| Map Symbol | Soil Map Unit Name |
|---------------|--|
| CsB | COLTON LOAMY FINE SAND, DARK MATERIALS, 2 TO 8 PERCENT SLOPES |
| CsC | COLTON LOAMY FINE SAND, DARK MATERIALS, 8 TO 15 PERCENT SLOPES |
| CsD | COLTON LOAMY FINE SAND, DARK MATERIALS, 15 TO 25 PERCENT SLOPES |
| MaB | MACHIAS FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES |
| MbB | MADAWASKA VERY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES |
| SeA | STETSON FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| SeB | STETSON FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| SeC | STETSON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES |
| SeD | STETSON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES |
| SfC* | STETSON-SUFFIELD COMPLEX, 0 TO 15 PERCENT SLOPES |
| SfE* | STETSON-SUFFIELD COMPLEX, 15 TO 45 PERCENT SLOPES |

* Only the Stetson Component of this map unit is a sand and gravel aquifer soil.

SOIL POTENTIAL FOR LOW DENSITY URBAN DEVELOPMENT

Very few towns in Maine have large tracts of soils that are ideal for residential development. Often the soil is wet, bedrock is near the ground surface or the land has steep slopes. Some areas may be subject to periodic flooding from nearby streams and rivers. It is often necessary to modify these areas by filling, excavating, blasting or drainage. These additional costs for site development are passed on to the future land owners. Maintenance costs such as erosion control, road and culvert repair will often be borne by the new landowner or a municipality. The installation of subsurface waste disposal systems, roads, and buildings can have a negative impact on a town's soil and water resources.

A key to minimizing these impacts is to recognize soil limitations associated with development and develop corrective measures to overcome the limitations. A rating system called Soil Potentials has been developed that allows planners to rate soils for their potential for low density development.

Soil potentials have been developed by selecting the best soil in a county for low density development.* It is the best simply because it has the fewest limitations (deep to water table, bedrock, etc.) and therefore is the least expensive soil on which to construct a home, septic system and a road. This "reference" soil is assigned a value of 100 index points. Costs are also developed for all other soils in the county for overcoming the various soil limitations. These costs are converted to index points and subtracted from the reference soil. The result is a method of comparative development costs for the soils in a county. Environmental constraints as well as long term maintenance costs are also a factor in developing soil potentials.

The Soil Potential index is a mathematical expression of a soil's position in the overall range of potentials which is 100 to 0. Since the entire range is large, these numerical ratings are separated into Soil Potential Rating Classes of very low to very high.

The composite rating for development was determined by a weighted average of individual soil potential indices as follows: septic tank absorption fields, 45 percent; dwellings with basements, 20 percent; and local roads and streets, 35 percent.

For more details about how soil potentials were developed, refer to the Soil Potential Ratings for Low Density Urban Development in Penobscot County, Maine. 12/ publication available at county Soil and Water Conservation District Offices.

12-31-1993

SOIL POTENTIALS BY RATING CLASS FOR PENOBSCOT COUNTY, MAINE

| MAP UNIT | | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|----------|---|----------|-----------|-----------|-------------|
| 1aB | - Adams loamy sand, 0-8 percent | LOW | VERY HIGH | VERY HIGH | MEDIUM |
| 1aC | - Adams loamy sand, 8-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| 1aE | - Adams loamy sand, 15-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| 1bA | - Allagash fine sandy loam, 0-2 percent | LOW | VERY HIGH | HIGH | MEDIUM |
| 1bB | - Allagash fine sandy loam, 2-8 percent | LOW | VERY HIGH | VERY HIGH | MEDIUM |
| 1bC | - Allagash fine sandy loam, 8-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| 1bD | - Allagash fine sandy loam, 15-25 percent | VERY LOW | MEDIUM | MEDIUM | VERY LOW |
| 3aA | - Bangor silt loam, 0-2 percent | HIGH | VERY HIGH | HIGH | HIGH |
| 3aB | - Bangor silt loam, 2-8 percent | HIGH | VERY HIGH | VERY HIGH | HIGH |
| 3aC | - Bangor silt loam, 8-15 percent | MEDIUM | HIGH | HIGH | MEDIUM |
| 3aD | - Bangor silt loam, 15-25 percent | VERY LOW | MEDIUM | MEDIUM | LOW |
| 3aB | - Bangor silt loam, moderately deep, 2-8 percent | MEDIUM | HIGH | HIGH | HIGH |
| 3aC | - Bangor silt loam, moderately deep, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| 3aD | - Bangor silt loam, moderately deep, 15-35 percent | VERY LOW | LOW | LOW | VERY LOW |
| 3bB | - Bangor very stony silt loam, 0-8 percent | HIGH | HIGH | HIGH | HIGH |
| 3bC | - Bangor very stony silt loam, 8-15 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| 3bD | - Bangor very stony silt loam, 15-25 percent | VERY LOW | MEDIUM | MEDIUM | LOW |
| 4aA | - Biddeford silt loam, 0-3 percent | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| 4aA | - Burnham silt loam, 0-3 percent | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| 5aA | - Buxton silt loam, 0-2 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| 5aB | - Buxton silt loam, 2-8 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| 5aC | - Buxton silt loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| 5aB | - Buxton, Scantic and Biddeford stony silt loam, 0-8 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| 5bS1 | - Buxton part | MEDIUM | HIGH | MEDIUM | MEDIUM |
| 5bB2 | - Scantic part | VERY LOW | VERY LOW | LOW | VERY LOW |

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SOIL POTENTIALS BY RATING CLASS FOR
PENOBSCOT COUNTY, MAINE

| MAP UNIT | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|--|----------|-----------|-----------|-------------|
| Bx3 - Biddeford part | VERY LOW | VERY LOW | LOW | VERY LOW |
| JaC - Canaan extremely rocky sandy loam, 5-15 percent | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| JaE - Canaan extremely rock sandy loam, 15-45 percent | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| JcB - Colton cobbly sandy loam, dark material, 0-8 percent | LOW | VERY HIGH | VERY HIGH | MEDIUM |
| JcC - Colton cobbly sandy loam, dark material, 8-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| JcD - Colton cobbly sandy loam, dark material, 15-25 percent | VERY LOW | MEDIUM | MEDIUM | VERY LOW |
| JcE - Colton cobbly sandy loam, dark material, 25-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| CnA - Colton gravelly sandy loam, dark material, 0-2 percent | LOW | VERY HIGH | HIGH | MEDIUM |
| CnB - Colton gravelly sandy loam, dark material, 2-8 percent | LOW | VERY HIGH | VERY HIGH | MEDIUM |
| CnC - Colton gravelly sandy loam, dark material, 8-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| CnD - Colton gravelly sandy loam, dark material, 15-25 percent | VERY LOW | MEDIUM | MEDIUM | VERY LOW |
| CnE - Colton gravelly sandy loam, dark material, 25-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| CsA - Colton loamy fine sand, dark material, 0-2 percent | LOW | VERY HIGH | HIGH | MEDIUM |
| CsB - Colton loamy fine sand, dark material, 2-8 percent | LOW | VERY HIGH | VERY HIGH | MEDIUM |
| CsC - Colton loamy fine sand, dark material, 8-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| CsD - Colton loamy fine sand, dark material, 15-25 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| DaA - Daigle silt loam, 0-2 percent | VERY LOW | MEDIUM | MEDIUM | LOW |
| DaB - Daigle silt loam, 2-8 percent | VERY LOW | MEDIUM | MEDIUM | LOW |
| DaC - Daigle silt loam, 8-15 percent | VERY LOW | MEDIUM | MEDIUM | VERY LOW |
| DgA - Daigle stony silt loam, 0-2 percent | VERY LOW | MEDIUM | MEDIUM | LOW |
| DgB - Daigle stony silt loam, 2-8 percent | VERY LOW | MEDIUM | MEDIUM | LOW |
| DgC - Daigle stony silt loam, 8-15 percent | VERY LOW | MEDIUM | MEDIUM | VERY LOW |
| - Dixmont silt loam, 0-2 percent | HIGH | HIGH | MEDIUM | MEDIUM |
| DxB - Dixmont silt loam, 2-8 percent | MEDIUM | HIGH | HIGH | HIGH |
| DxC - Dixmont silt loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| DyA - Dixmont very stony silt | MEDIUM | HIGH | MEDIUM | MEDIUM |

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SOIL POTENTIALS BY RATING CLASS FOR PENOBSCOT COUNTY, MAINE

| MAP UNIT | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|---|-----------|-----------|-----------|-------------|
| D - Dixmont very stony silt loam, 2-8 percent | MEDIUM | HIGH | HIGH | MEDIUM |
| D - Dixmont very stony silt loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| EWB - Elmwood fine sandy loam, 0-8 percent | HIGH | HIGH | MEDIUM | MEDIUM |
| H - Hadley silt loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| HbB - Hermon sandy loam, 2-8 percent | VERY HIGH | VERY HIGH | VERY HIGH | VERY HIGH |
| HcC - Hermon sandy loam, 8-15 percent | HIGH | HIGH | HIGH | HIGH |
| HdB - Hermon sandy loam, moderately deep, 2-8 percent | HIGH | HIGH | HIGH | HIGH |
| HdC - Hermon sandy loam, moderately deep, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| HfB - Hermon very stony sandy loam, 2-8 percent | HIGH | HIGH | HIGH | HIGH |
| HeC - Hermon very stony sandy loam, 8-15 percent | HIGH | HIGH | MEDIUM | HIGH |
| HfC - Hermon very stony sandy loam, 15-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| HhC - Hermon extremely stony sandy loam, 5-15 percent | HIGH | HIGH | MEDIUM | HIGH |
| HvB - Howland gravelly loam, 0-8 percent | MEDIUM | HIGH | HIGH | HIGH |
| HvC - Howland gravelly loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| HvB - Howland very stony loam, 0-8 percent | MEDIUM | HIGH | HIGH | MEDIUM |
| HvC - Howland very stony loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| HvD - Howland very stony loam, 15-25 percent | VERY LOW | LOW | LOW | VERY LOW |
| L - Limerick silt loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| MbB - Machias fine sandy loam, 0-8 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| MbB - Madawaska very fine sandy loam, 0-8 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| MA - Melrose fine sandy loam, 0-2 percent | HIGH | HIGH | MEDIUM | MEDIUM |
| MeB - Melrose fine sandy loam, 2-8 percent | HIGH | HIGH | MEDIUM | MEDIUM |
| MeC - Melrose fine sandy loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| M - Mixed Alluvial Land | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| MoB - Monarda silt loam, 0-8 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| MoB - Monarda and Burnham very stony silt loam, 0-8 percent | VERY LOW | VERY LOW | LOW | VERY LOW |

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SOIL POTENTIALS BY RATING CLASS FOR
PENOBSCOT COUNTY, MAINE

| MAP UNIT | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|---|----------|-----------|----------|-------------|
| MrB1 - Monarda part | VERY LOW | VERY LOW | LOW | VERY LOW |
| MrB2 - Burnham part | VERY LOW | VERY LOW | LOW | VERY LOW |
| MsC - Monarda and Burnham extremely stony silt loams, 0-15 percent | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| MsC1 - Monarda part | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| MsC2 - Burnham part | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| Mu - Muck | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| On - Ondawa fine sandy loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| Pa - Peat and Muck | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| Pc - Peat, coarsely fibrous | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| Pf - Peat, moderately fibrous | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| PgB - Plaisted gravelly loam, 2-8 percent | HIGH | HIGH | HIGH | HIGH |
| PgC - Plaisted gravelly loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| PgD - Plaisted gravelly loam, 15-25 percent | VERY LOW | MEDIUM | LOW | VERY LOW |
| PgE - Plaisted gravelly loam, 25-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| PhB - Perham silt loam, 0-8 percent | HIGH | HIGH | HIGH | HIGH |
| PhC - Perham silt loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| PmB - Perham stony silt loam, 0-8 percent | HIGH | HIGH | HIGH | HIGH |
| PmC - Perham stony silt loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| PrC - Plaisted very stony loam, 5-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| PrE - Plaisted very stony loam, 15-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| Ps - Peat, sphagnum | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| PxC - Plaisted extremely stony loam, 5-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| - Podunk fine sandy loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| RaB - Red Hook-Atherton silt loam, 0-8 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| RaB1 - Red Hook part | VERY LOW | VERY LOW | LOW | VERY LOW |
| RaB2 - Atherton part | VERY LOW | VERY LOW | LOW | VERY LOW |

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SOIL POTENTIALS BY RATING CLASS FOR PENOBSCOT COUNTY, MAINE

| MAP UNIT | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|--|----------|-----------|----------|-------------|
| Stetson-Suffield complex, 15-45 percent | VERY LOW | LOW | LOW | VERY LOW |
| Stetson part + | VERY LOW | LOW | LOW | VERY LOW |
| Suffield part | VERY LOW | LOW | VERY LOW | VERY LOW |
| Stony land, Hermon material, strongly sloping | VERY LOW | MEDIUM | LOW | LOW |
| Stony land, Plaisted material, strongly sloping | VERY LOW | LOW | LOW | VERY LOW |
| Suffield silt loam, 0-2 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| Suffield silt loam, 2-8 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| Suffield silt loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| Suffield silt loam, 8-15 percent, eroded | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| Suffield silt loam, 15-25 percent | VERY LOW | MEDIUM | LOW | VERY LOW |
| Suffield silt loam, 15-25 percent, eroded | VERY LOW | MEDIUM | LOW | VERY LOW |
| Suffield silt loam, 25-45 percent | VERY LOW | LOW | VERY LOW | VERY LOW |
| Suffield very fine sandy loam, 0-2 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| Suffield very fine sandy loam, 2-8 percent | MEDIUM | HIGH | MEDIUM | MEDIUM |
| Suffield very fine sandy loam, 8-15 percent | MEDIUM | MEDIUM | MEDIUM | MEDIUM |
| Suffield very fine sandy loam, 15-25 percent | VERY LOW | MEDIUM | LOW | VERY LOW |
| Thorndike shaly silt loam, 2-8 percent | LOW | MEDIUM | HIGH | MEDIUM |
| Thorndike shaly silt loam, 8-15 percent | VERY LOW | LOW | MEDIUM | LOW |
| Thorndike shaly silt loam, 15-25 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| Thorndike shaly silt loam, 25-45 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| Thorndike very rocky silt loam, 2-8 percent | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| Thorndike very rocky silt loam, 8-15 percent | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| Thorndike very stony silt loam, 2-8 percent | LOW | MEDIUM | HIGH | MEDIUM |
| Thorndike very stony silt loam, 8-15 percent | VERY LOW | LOW | MEDIUM | LOW |
| Thorndike very stony silt loam, 15-35 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| Winooski silt loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |

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SOIL POTENTIALS BY RATING CLASS FOR
PENOBSCOT COUNTY, MAINE

| MAP UNIT | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|---|----------|-----------|-----------|-------------|
| RdB - Red Hook-Atherton fine sandy loam, 0-8 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| RdB1 - Red Hook part | VERY LOW | VERY LOW | LOW | VERY LOW |
| RdB2 - Atherton part | VERY LOW | VERY LOW | LOW | VERY LOW |
| Re - Riverwash | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| RkC - Rock Land, Canaan material, sloping | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| RkC1 - Rock Land part | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| RkC2 - Canaan part | LOW | LOW | MEDIUM | LOW |
| RkD - Rock Land, Canaan material, strongly sloping | VERY LOW | VERY LOW | LOW | VERY LOW |
| RkD1 - Rock Land part | VERY LOW | VERY LOW | LOW | VERY LOW |
| RkD2 - Canaan part | VERY LOW | VERY LOW | LOW | VERY LOW |
| RmC - Rock Land, Thorndike material, strongly sloping | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| RmC1 - Rock Land part | VERY LOW | VERY LOW | MEDIUM | VERY LOW |
| RmC2 - Thorndike part | VERY LOW | LOW | MEDIUM | LOW |
| RmD - Rock Land, Thorndike material | VERY LOW | VERY LOW | LOW | VERY LOW |
| RmD1 - Rock Land part | VERY LOW | VERY LOW | LOW | VERY LOW |
| RmD2 - Thorndike part | VERY LOW | VERY LOW | LOW | VERY LOW |
| Ro - Rock Outcrop | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| Sa - Saco silt loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |
| ScB - Scantic silt loam, 0-8 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| SeA - Stetson fine sandy loam, 0-2 percent | LOW | VERY HIGH | HIGH | MEDIUM |
| SeB - Stetson fine sandy loam, 2-8 percent | LOW | VERY HIGH | VERY HIGH | MEDIUM |
| SeC - Stetson fine sandy loam, 8-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| () - Stetson fine sandy loam, 15-25 percent | VERY LOW | MEDIUM | MEDIUM | VERY LOW |
| SfC - Stetson-Suffield complex, 0-15 percent | VERY LOW | HIGH | HIGH | MEDIUM |
| SfC1 - Stetson part | VERY LOW | HIGH | HIGH | MEDIUM |
| SfC2 - Suffield part | MEDIUM | MEDIUM | MEDIUM | MEDIUM |

1989

SOIL POTENTIALS BY RATING CLASS FOR PENOBSCOT COUNTY, MAINE (CONTINUED)

| MAP UNIT | SEPTICS | DWELLINGS | ROADS | DEVELOPMENT |
|--|----------|-----------|----------|-------------|
| TvC - Thorndike very stony silt loam, 8-15 percent | VERY LOW | LOW | MEDIUM | LOW |
| TvD - Thorndike very stony silt loam, 15-35 percent | VERY LOW | VERY LOW | LOW | VERY LOW |
| Mn - Minooski silt loam | VERY LOW | VERY LOW | VERY LOW | VERY LOW |

- * Low density development includes single family unit residences with basements and comparable buildings and septic tank absorption fields, with or without on-site sources of water. Development may be as a single unit or as a cluster of units in a development. Paved roads in a development are also included.

SECURE LANDFILL

A secure landfill is a landfill that utilizes a liner system, a leachate collection and treatment system and a final cover system to prevent discharges of waste or leachate, and control release of gas to the environment.

The protection of ground water and surface water is of paramount importance when a town or group of towns site a secure landfill. Although the location, site assessment and design of a facility is very technical and complex, soil survey information can provide preliminary information on permeability, depth to bedrock, slope, percent rock fragments and possible flooding. The soil survey can also show if a potential site has wetland soils. The following is a listing of soils that meets minimum criteria. 7/

It should be noted that even if preliminary soil information indicates that a site has potential for a secure landfill the size of the area, nearness to bodies of water, wells, residences, property lines and sand or gravel aquifers may cause a sites disqualification. Also, detailed on-site investigations are needed for final suitability determinations.

Potential Soils for Secure Landfill in Penobscot County, Maine

| Map Symbol | Soil Map Unit Name |
|---------------|--------------------|
|---------------|--------------------|

| | |
|------|---|
| BuA | BUXTON SILT LOAM, 0 TO 2 PERCENT SLOPES |
| BuB | BUXTON SILT LOAM, 2 TO 8 PERCENT SLOPES |
| BuC | BUXTON SILT LOAM, 8 TO 15 PERCENT SLOPES |
| DaA | DAIGLE SILT LOAM, 0 TO 2 PERCENT SLOPES |
| DaB | DAIGLE SILT LOAM, 2 TO 8 PERCENT SLOPES |
| DaC | DAIGLE SILT LOAM, 8 TO 15 PERCENT SLOPES |
| DgA | DAIGLE STONY SILT LOAM, 0 TO 2 PERCENT SLOPES |
| DgB | DAIGLE STONY SILT LOAM, 2 TO 8 PERCENT SLOPES |
| DgC | DAIGLE STONY SILT LOAM, 8 TO 15 PERCENT SLOPES |
| DxA* | DIXMONT SILT LOAM, 0 TO 2 PERCENT SLOPES |
| DxB* | DIXMONT SILT LOAM, 2 TO 8 PERCENT SLOPES |
| DxC* | DIXMONT SILT LOAM, 8 TO 15 PERCENT SLOPES |
| DyA* | DIXMONT VERY STONY SILT LOAM, 0 TO 2 PERCENT SLOPES |
| DyB* | DIXMONT VERY STONY SILT LOAM, 2 TO 8 PERCENT SLOPES |
| DyC* | DIXMONT VERY STONY SILT LOAM, 8 TO 15 PERCENT SLOPES |
| EwB | ELMWOOD FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES |
| HoB* | HOWLAND GRAVELLY LOAM, 0 TO 8 PERCENT SLOPES |

Potential Soils for Secure Landfill in Penobscot County, Maine
(Continued)

| Map Symbol | Soil Map Unit Name |
|---------------|---|
| HoC* | HOWLAND GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES |
| HvB* | HOWLAND VERY STONY LOAM, 0 TO 8 PERCENT SLOPES |
| HvC* | HOWLAND VERY STONY LOAM, 8 TO 15 PERCENT SLOPES |
| MeA | MELROSE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| MeB | MELROSE FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES |
| MeC | MELROSE FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES |
| PgB* | PLAISTED GRAVELLY LOAM, 2 TO 8 PERCENT SLOPES |
| PgC* | PLAISTED GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES |
| PhB* | PERHAM SILT LOAM, 0 TO 8 PERCENT SLOPES |
| PhC* | PERHAM SILT LOAM, 8 TO 15 PERCENT SLOPES |
| PmB* | PERHAM STONY SILT LOAM, 0 TO 8 PERCENT SLOPES |
| PmC* | PERHAM STONY SILT LOAM, 8 TO 15 PERCENT SLOPES |
| PrC* | PLAISTED VERY STONY LOAM, 5 TO 15 PERCENT SLOPES |
| SuA | SUFFIELD SILT LOAM, 0 TO 2 PERCENT SLOPES |
| SuB | SUFFIELD SILT LOAM, 2 TO 8 PERCENT SLOPES |
| SuC | SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES |
| SuC2 | SUFFIELD SILT LOAM, 8 TO 15 PERCENT SLOPES, ERODED |
| SuD | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES |
| SuD2 | SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES, ERODED |
| SuE | SUFFIELD SILT LOAM, 25 TO 45 PERCENT SLOPES |
| SvA | SUFFIELD VERY FINE SANDY LOAM, 0 TO 2 PERCENT |
| SvB | SUFFIELD VERY FINE SANDY LOAM, 2 TO 8 |
| | PERCENT SLOPES |
| SvC | SUFFIELD VERY FINE SANDY LOAM, 8 TO 15 |
| | PERCENT SLOPES |
| SvD | SUFFIELD VERY FINE SANDY LOAM, 15 TO 25 |
| | PERCENT SLOPES |

Only those soils in this map unit with a permeability of less than .2 inches/hour should be considered for secure landfill.

HYDRIC SOILS

Wetlands represent the collection of aquatic or semi aquatic habitats commonly referred to as marshes, swamps, and bogs. The U.S. Soil Conservation Service, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency define wetlands by the presence of wetland vegetation (hydrophytes) and hydrology (degree of flooding and/or soil saturation) and by reference to wet soils (hydric soils). 8/ The prevalence of hydrophytes and the presence of wet soil reflect the long-term hydrology and therefore, are useful indicators of wetland. Some of the benefits of wetlands include, waterfowl breeding, habitat for waterfowl and other birds, flood control, water quality, shoreline stabilization and others.

If wetlands are identified as a critical resource, then a good first step would be to inventory the extent of hydric soils that were mapped in the soil survey.

It is important to remember that because of map scale very small areas of hydric soils are often not shown on the soil survey. The soil survey provides a general location of hydric soils; however, it is necessary that the exact wetland boundary be located in the field. When the boundary is not clear, consult with technical experts. The publications Hydric soils of New England 9/ and Federal Manual for Identifying and Delineating Jurisdictional Wetlands 2/ provide a more detailed discussion on hydric soils as well as on-site identification of wetland boundaries. Other sources of wetland information are the U.S. Fish and Wildlife Service, National Wetland Inventory Maps and the Maine Department of Environmental Protection Inland Wetland Maps.

Hydric Soils in Penobscot County, Maine

| Map Symbol | Soil Map Unit Name | Hydric Component |
|---------------|--|----------------------|
| BoA | BIDDEFORD SILT LOAM, 0 TO 3 PERCENT SLOPES | Biddeford |
| BrA | BURNHAM SILT LOAM, 0 TO 3 PERCENT SLOPES | Burnham |
| BxB | BUXTON, SCANTIC, AND BIDDEFORD STONY SILT LOAMS, 0 TO 8 PERCENT SLOPES | Scantic Biddeford |
| Lk | LIMERICK SILT LOAM | Limerick |
| MoB | MONARDA SILT LOAM, 0 TO 8 PERCENT SLOPES | Monarda |
| MrB | MONARDA AND BURNHAM VERY STONY SILT LOAMS, 0 TO 8 PERCENT SLOPES | Monarda Burnham |
| MsC | MONARDA AND BURNHAM EXTREMELY STONY SILT LOAMS, 0 TO 15 PERCENT SLOPES | Monarda Burnham |
| Mu | MUCK | Muck |
| Pa | PEAT AND MUCK | Peat, Muck |
| Pc | PEAT, COARSELY FIBROUS | Peat |

Hydric Soils in Penobscot County, Maine (Continued)

| Map Symbol | Soil Map Unit Name | Hydric Component |
|---------------|---|------------------|
| Pf | PEAT, MODERATELY FIBROUS | Peat |
| Ps | PEAT, SPHAGNUM | Peat |
| RaB | RED HOOK AND ATHERTON SILT LOAMS, 8 TO 8 PERCENT SLOPES | Atherton |
| RdB | RED HOOK AND ATHERTON FINE SANDY LOAMS, 8 TO 8 PERCENT SLOPES | Atherton |
| Sa | SACO SILT LOAM | Saco |
| ScB | SCANTIC SILT LOAM, 8 TO 8 PERCENT SLOPES | Scantic |

SOIL SERIES DESIGNATION BY THE MAINE STATE PLUMBING CODE CRITERIA

The following is a rating of soil series for subsurface wastewater disposal. Depth to bedrock, seasonal high water table, restrictive layer as well as possible flooding have been compared to the minimum soil criteria in The Rules For Subsurface Wastewater Disposal, Department of Human Services, Division of Health and Engineering.^{10/} New system variances were not considered in making these ratings. Also, the ratings are for general planning only. Onsite investigations are needed for final suitability determinations. The Maine State Plumbing Code does not consider the filtering ability of a soil to protect ground water. Soils that have a profile designation of 5 or 6 would have a severe rating by SCS criteria because of the poor filtering ability of these soils.

Fifteen inches is the minimum depth to a limiting factor the plumbing code allows for the installation of a new subsurface disposal system unless a new system variance is granted. Soils that consistently have a watertable, bedrock or restrictive layer 15 inches or greater from the soil surface are given the "permitted designation." Soils that consistently have the designated property less than 15 inches from the soil surface are given the "not permitted designation." Soils that may be greater than or less than 15 inches to the limiting factor are given a "may be permitted" designation.

The soil profile and soil condition column refer to the soil classification system used by the Department of Human Services, Division of Health Engineering to determine a sites suitability for subsurface waste water disposal. Refer to the Maine Subsurface Wastewater Disposal Rules for a more detailed explanation of these codes.^{10/}

If slopes exceed 20 percent, new subsurface disposal systems are not permitted.

Even though a subsurface waste disposal system may be permitted on a particular soil, site conditions such as the size of the area, nearness to water bodies or other non-soil considerations may prevent its use. Also, soil properties cover a wide range. The profile designations in the table are based on the central concept of a soil. In the natural landscape, some soils may overlap into related soil profiles, especially in transitional areas.

**Soil Series Designation in Penobscot County, Maine by the Maine State
Plumbing Code**

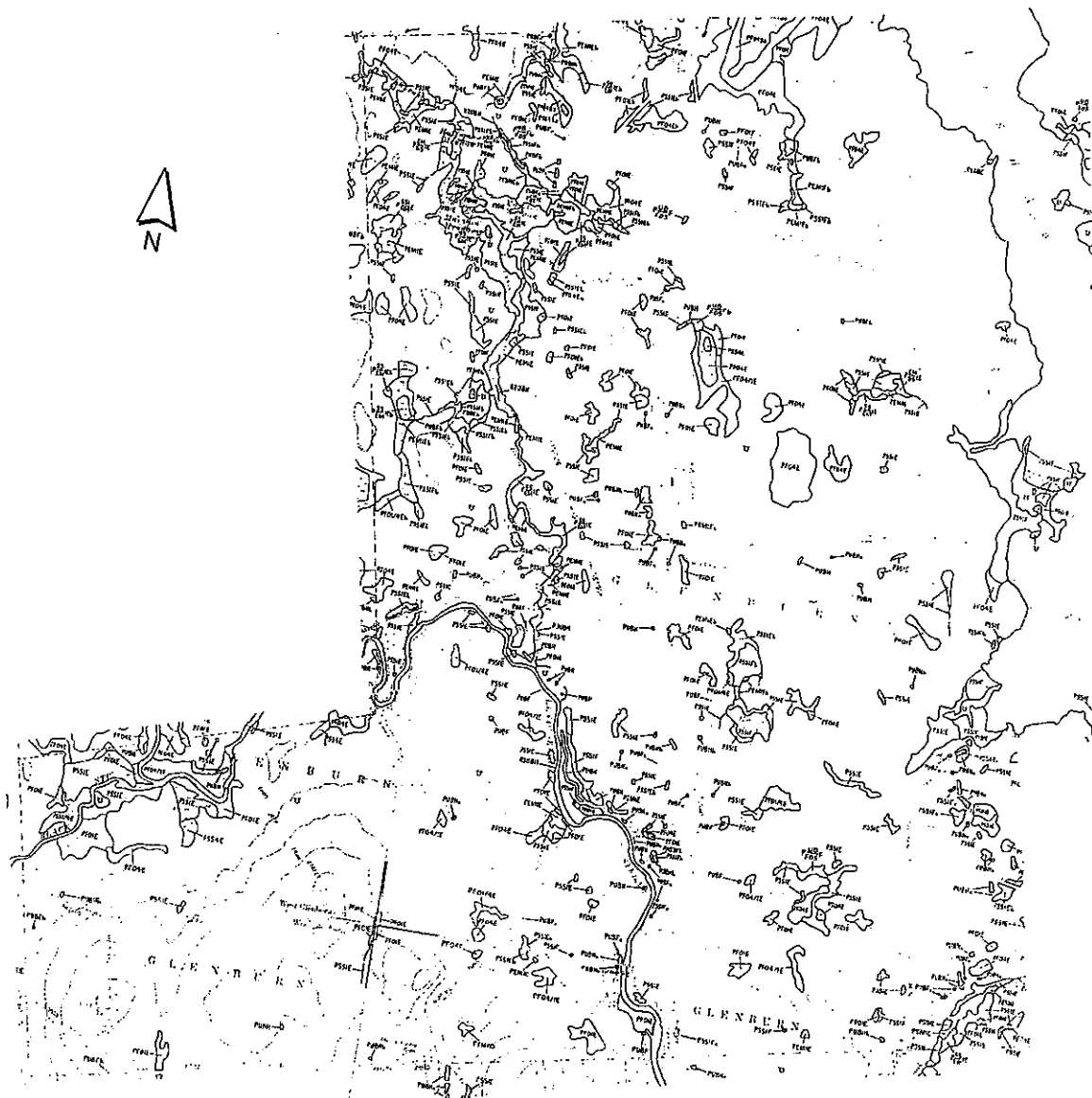
| SOIL SERIES | SOIL PROFILE | SOIL CONDITION | LIMITING FACTOR | SUITABILITY FOR NEW SYSTEMS | | |
|---------------|-----------------|-------------------|--------------------|-----------------------------|--------------------|------------------|
| | | | | PERMITTED | MAYBE PERMITTED | NOT PERMITTED |
| Adams | 6 | B | | X | | |
| Ellagash | 5 | B | | X | | |
| Herberton | 1 | E | Wetness | | | X |
| Bangor | 1 | B | Wetness | | | X |
| Iddeford | 9 | E | Wetness | | | X |
| Jurnham | 1 | E | Wetness | | | X |
| Buxton* | 9 | C/D | Wetness | X | | |
| Cannan | 2 | AII or AIII/B | Bedrock | | X | |
| Colton | 6 | B | | X | | |
| Daigle | 1 | D | Wetness | | | X |
| Dixmont | 1 | C/D | Wetness | | X | |
| Elmwood | 8 | C | Wetness | X | | |
| Hadley | 11 | B | Flooding | | | X |
| Hermon | 4 | B | | X | | |
| Lowland | 1 | C/D | Wetness | | X | |
| Merick | 11 | E | Flooding, Wetness | | | X |
| Nachias | 5 | C | Wetness | X | | |
| Nadawaska | 5 | C | Wetness | X | | |
| Nelrose | 3 | B | Restrictive Layer | X | | |
| Monarda | 1 | E | Wetness | | | X |
| Muck | 10 | E | Organic, Wetness | | | X |
| Undawa | 11 | B | Flooding | | | X |
| Peat, co. fi. | 10 | E | Organic, Wetness | | | X |
| Peat, mod fi. | 10 | E | Organic, Wetness | | | X |
| Peat, spag. | 10 | E | Organic, Wetness | | | X |
| Perham | 1 | C | Wetness | X | | |
| Plaisted | 1 | B | Restrictive Layer | X | | |
| Podunk | 11 | C | Flooding, Wetness | | | X |
| Red Hook | 1 | D | Wetness | | | X |
| Saco | 11 | E | Flooding, Wetness | | | X |
| Scantic | 9 | E | Wetness | | | X |
| Stetson | 5 | B | | X | | |
| Suffield | 9 | B | | X | | |
| Thorndike | 1 | AII or AIII/B | Bedrock | | X | |
| Winnoski | 11 | C | Flooding, Wetness | | | X |

* The Buxton soil is now considered a moderately well drained soil. However, in the past it was mapped to include somewhat poorly drained therefore, it has been placed in soil conditions C/D.

References

- 1/ Guidelines for Maine's Growth Management Program. Office of Comprehensive Planning, Maine Department of Economic and Community Development. Augusta, Maine. December 1988.
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- 3/ National Conservation Planning Manual, Soil Conservation Service, USDA, Washington, DC.
- 4/ National Forestry Manual, Soil Conservation Service, USDA, Washington, DC. 1980.
- 5/ Highly Erodible Land - Maine. Technical Guide, Soil Conservation Service, USDA, Orono, Maine, Section II-D. 1986
- 6/ The Planning Process for Local Groundwater Protection. Maine Executive Department, Groundwater Standby Committee, Land and Water Resources Council. P. Dutram'.
- 7/ Solid Waste Management Rules, Maine Department of Environmental Protection, Augusta, Maine, March 1989 (Final Draft).
- 8/ Federal Interagency committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Soil Conservation Service, Washington, DC. Cooperative technical publication. 76 pp.
- 9/ Tiner, Ralph W., and Peter Veneman, Hydric Soils of New England. University of Massachusetts Cooperative Extension, c-183, Amherst MA. 27pp. Cooperative Extension Service, University of Massachusetts.
- 10/ Subsurface Wastewater Disposal Rules. Department of Human Services, Division of Health Engineering, Augusta, Maine. 1980.
- 11/ Soil Survey of Penobscot County, Maine. USDA, Soil Conservation Service, Orono, Maine
- 12/ Soil Potential Ratings for Low Density Urban Development in Penobscot County Area, Maine. USDA Soil Conservation Service, Orono, Maine (in print)

National Wetlands Inventory



Source: U.S. Department of the Interior
Fish and Wildlife Service (1995)
Base Map: United States Geological Survey
To be used for planning purposes only



Scale approx 1:44,200

U.S. Department of the Interior
Fish and Wildlife Service
Prepared by National Wetlands Inventory
Base map provided by the United States Geological Survey
1995

NOTES TO THE USER

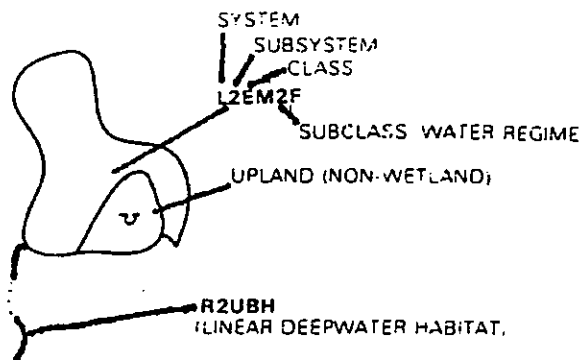
- Subsystems, Classes, Subclasses, and Water Regimes, in *italics* were developed specifically for NATIONAL WETLANDS INVENTORY mapping
- Some areas designated as R4SB, R4SBW OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach Bar (BB), or Flat (FL). Subclasses remain the same in both versions


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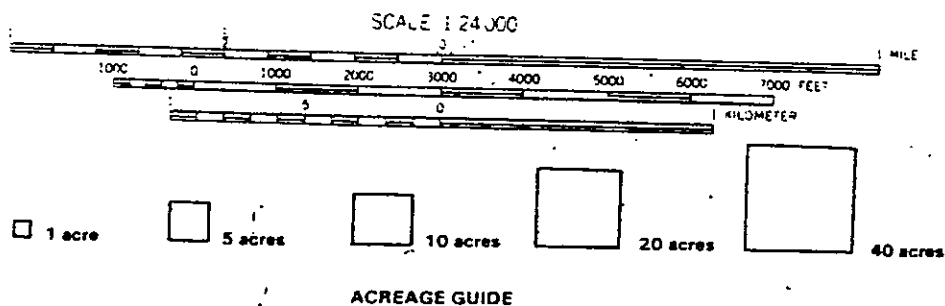


 Primarily represents upland areas, but may include unclassified wetlands such as man-modified areas, non-photo-identifiable areas and/or unintentional omissions.

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with Classification of Wetlands and Deepwater Habitats of the United States (FWS/OBS - 79/31 December 1979). The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on this document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



For information on availability of NWI maps, call 1-800-USA-MAPS.

Regional Director (ARDE) Region V
U.S. Fish and Wildlife Service
300 Westgate Center Drive
Hedley, MA 01035

M - MARINE

SUBSYSTEM

1 - SUBTIDAL

2 - INTERTIDAL

| CLASS | RR - ROCK BOTTOM | UB - UNCONSOLIDATED BOTTOM | AB - AQUATIC BED | RF - REEF | OW - OPEN WATER/ Unknown Bottom | RS - ROCKY SHORE | US - UNCONSOLIDATED SHORE |
|----------|-----------------------|---|---|-------------------|------------------------------------|-----------------------|---|
| Subclass | 1 Bedrock 2 Rubble | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic | 1 Algal 2 Rooted Vascular 3 Unknown 4 Submergent | 1 Coral 3 Worm | | 1 Bedrock 2 Rubble | 1 Cobble-Gravel 2 Sand 3 Mud 4 Organic |

SYSTEM

R - RIVERINE

SUBSYSTEM

1 - TIDAL

2 - LOWER PERENNIAL

3 - UPPER PERENNIAL

4 - INTERMITTENT

5 - UNKNOWN PERENNIAL

| CLASS | RB - ROCK BOTTOM | UB - UNCONSOLIDATED BOTTOM | SB - STREAMBED | AB - AQUATIC BED | RS - ROCKY SHORE | US - UNCONSOLIDATED SHORE | **EM - EMERGENT | OW - OPEN WATER/ Unknown Bottom |
|----------|-----------------------|---|---|--|-----------------------|--|-----------------|------------------------------------|
| Subclass | 1 Bedrock 2 Rubble | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic | 1 Bedrock 2 Rubble 3 Cobble Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated | 1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface | 1 Bedrock 2 Rubble | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated | 2 Nonpersistent | |

*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM
 **EMERGENT is limited in TIDAL and LOWER PERENNIAL SUBSYSTEMS

SYSTEM

P - PALUSTRINE

| CLASS | RB - ROCK BOTTOM | UB - UNCONSOLIDATED BOTTOM | AB - AQUATIC BED | US - UNCONSOLIDATED SHORE | MT - MOSS UCHEN | EM - EMERGENT | SS - SCRUB-SHRUB | FD - FORESTED OW - OPEN WATER/ Unknown Bottom |
|----------|-----------------------|---|--|--|--------------------|---------------------------------|--|--|
| Subclass | 1 Bedrock 2 Rubble | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic | 1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated | 1 Moss 2 Lichen | 1 Persistent 2 Nonpersistent | 1 Broad-Leaved 2 Deciduous 3 Broad-Leaved 4 Evergreen 5 Dead 6 Deciduous 7 Evergreen | |

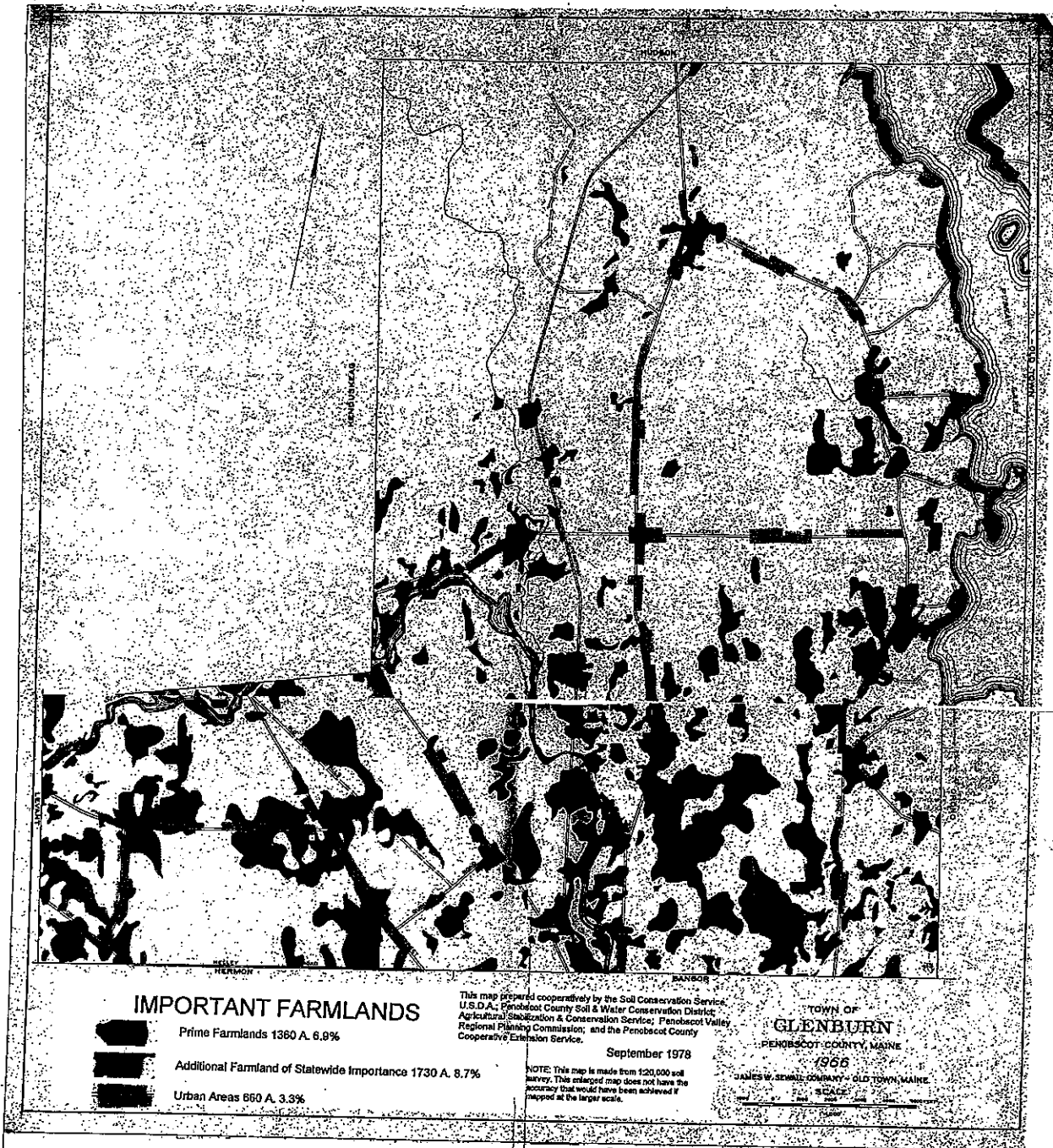
MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The named modifier may also be applied to the ecological system.

| WATER REGIME | | WATER CHEMISTRY | | SOIL | SPECIAL MODIFIERS |
|-----------------------------|---------------------------------------|---------------------------|--------------------------|---|--|
| Non-Tidal | | Tidal | | | |
| A Temporarily Flooded | H Permanently Flooded | K Artificially Flooded | S Temporary Tidal | g Organic n Mineral | b Beaver c Partially Drained/Drained f Farmed h Dead/Impounded j Artificial Substrate k Soil l Excavated |
| B Saturated | J Intermittently Flooded | L Subtidal | R Seasonal Tidal | | |
| C Seasonally Flooded | M Irregularly Flooded | M Regularly Exposed | T Semipermanent Tidal | | |
| D Seasonally Flooded | N Well Drained | N Irregularly Flooded | V Permanent Tidal | | |
| E Seasonally Flooded | W Flooded-Temporary | P Irregularly Flooded | U Unknown | | |
| F Saturated | Y Saturated-Semipermanent/Seasonal | | | | |
| G Saturated | Z Seasonal | | | | |
| H Intermittently Flooded | 1 Intermittently Exposed | | | | |
| I Intermittently Flooded | 2 Intermittently Exposed | | | | |
| J Intermittently Flooded | 3 Intermittently Exposed | | | | |
| | | | | Coastal Salinity | pH Modifiers for all Fresh Water |
| | | | | 1 Hyperhaline | a Acid |
| | | | | 2 Euhaline | i Circumneutral |
| | | | | 3 Microhaline (Brackish) | r Alkaline |
| | | | | 4 Hypohaline | |
| | | | | 5 Mesohaline | |
| | | | | 6 Oligohaline | |
| | | | | O Fresh | |
| | | | | *These water regimes are only used in tidally influenced freshwater systems | |
| | | | | U Unknown | |

| FB - ROCK BOTTOM | UB - UNCONSOLIDATED BOTTOM | AB - AQUATIC BED | AF - REEF | SB - STREAMBED | NS - NOCTY SHORE | US - UNCONSOLIDATED SHORE | EM - EMERGENT | SS - SCRUB SWAMP | FO - FORESTED |
|-----------------------|---|---------------------|---|---|--|---------------------------------|---|---|---|
| 1 Berroch 2 Rubble | 1 Algal 2 Aquatic Vascular 3 Floating Vascular 4 Unknown Submergent 5 Unknown Surface | 2 Mollusc 3 Worm | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic | 1 Cobble Gravel 2 Sand 3 Mud 4 Organic | 1 Berroch 2 Rubble 3 Sand 4 Organic | 1 Periwinkle 2 Nongregarious | 1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Evergreen Conifer 6 Deciduous Conifer 7 Evergreen | 1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Evergreen Conifer 6 Deciduous Conifer 7 Evergreen | 1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Evergreen Conifer 6 Deciduous Conifer 7 Evergreen |

[illegible]



Source: James S. Sewall Co. Important Farmlands Map, 1966. To be used for planning purposes only.

ACRONYMS

| | |
|-------------|--|
| AADT | Annual Average Daily Traffic |
| BETR | Business Property Tax Reimbursement |
| BTIP | Biennial Transportation Improvement Plan |
| CDBG | Community Development Block Grant |
| CIP | Capital Improvement Plan |
| CMP | Central Maine Power |
| CRF | Critical Rate Factor |
| DECD | Department of Economic and Community Development |
| DEP | Department of Environmental Protection |
| DHR | Department of Human Resources |
| DHS | Department of Human Services |
| DIFW | Department of Inland Fisheries and Wildlife |
| DOT | Department of Transportation |
| DWA | Deer Wintering Area |
| ETIF | Employment Tax Increment Financing |
| FEMA | Federal Emergency Management Agency |
| FmHA | Farmer's Home Administration |
| GTI | Governor's Training Initiative |
| HUD | Housing and Urban Development |
| I - 95 | Interstate 95 |
| LDD | Low Density Development |
| LMI | Low and Moderate Income |
| MHPC | Maine Historic Preservation Commission |
| MRC | Municipal Review Committee |
| MRSA | Maine Revised Statutes Annotated |
| MSA | Metropolitan Statistical Area |
| MSHA | Maine State Housing Authority |
| NRCS | Natural Resource Conservation Service |
| NRPA | Natural Resource Protection Act |
| Penquis CAP | Penquis Community Action Program |
| PERC | Penobscot Energy Recovery Company |
| RD | Rural Development |
| RTAC | Regional Transportation Advisory Committee |
| SCS | Soil Conservation Service |
| SF | Square Feet |
| SPO | State Planning Office |
| TIF | Tax Increment Financing |
| USDA | United States Department of Agriculture |
| USGS | United States Geological Service |
| VMP | Voluntary Monitoring Program |
| WWH | Waterfowl and Wading Bird Habitats |